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THE
CHILD WELFARE MANUAL

A Handbook of
Child Nature and Nurture for Parents and Teachers

PREPARED BY
THE EDITORIAL BOARD OF
THE UNIVERSITY SOCIETY

VOL. *ONE*

The thing which thou hast spoken is good for us to do. Deuteronomy i:14

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PREFACE

THIS collection is distinctly a handbook for parents. It is not a manual on housekeeping, although it contains some sensible words about keeping house. It is not a treatise on home medicine, although expert advice is given on medical subjects. The qualities at which the editors have aimed are four:

1. It is practical. The editors, after examination of an immense correspondence from the mothers of America, have selected subjects regarding which those mothers have most often expressed their anxiety and their ignorance. These topics—matters about which real mothers have asked information—form the contents of this book.

2. It is simple. So much that has been written by the great authorities in the field of child study and child training, is written in language that is beyond the grasp of the average busy father and mother.

3. It is authoritative. Many authorities, it is true, have contributed to this collection; but they are authorities who have the rare gift of interpretation.

4. It is complete. Most books for parents deal entirely with the care and training of little children, avoiding the more difficult problems of those who are near maturity. Many books of the sort touch the matters of physical care and perhaps the mental training, but avoid the even more important topics connected with the social life of the child and his moral and religious nature.

C.D. TRANSFER AUG 17 1939

The material in this collection belongs under one of two heads: first, the facts; second, what, in view of the facts, the parents may wisely do. This outline is clearly presented in a unique chart of child development which is furnished in the first part of the handbook. In this chart we have the fullest and most intelligible sketch that has ever been made of the development of the normal child. But although the upper part of the chart is devoted to the facts, the lower is furnished with practical illustrations for working upon the basis of these facts and turning them to the best results. This simple and practical idea is carried throughout the volume. In speaking of the mental development of the child, for example, a practical summary is given of how a child's mind grows. Then come a number of helpful articles showing parents how, on the basis of this knowledge, they may wisely educate the child.

The collection is arranged in six important departments, as follows:

I. Home Equipment.
II. Physical Life and Problems.
III. Mental Life and Problems.
IV. Social Life and Problems.
V. Moral and Religious Life and Problems.
VI. Personal Conduct and Character.

In the first department, the reader is shown that for the complete furnishing of the home, three kinds of equipment are required: parental equipment, house equipment, and spiritual equipment. Under parental equipment is discussed the attitude of parents to each other, to their home, and to their children. Under house equipment the arrangement of the home is described, with practical articles upon children's books and pictures, and good advice concerning household management, saving the strength of the mother, and living with servants. The most important equipment of the home is spiritual equipment: the attitude of the man in the house, the manners of parents and children, the valuable opportunities of table-talk and home conversation, and the sacred privilege of living together pleasantly and lovingly.

The second department takes up the main problems of the physical life of the normal child. The department opens with some sensible and reassuring articles for the expectant mother. Then are discussed in turn, food, clothing, hygiene and exercise, the common ailments of childhood, etc. The most important and the most novel portion of this department is that dealing with our latest knowledge concerning sense-training and habit-forming and other problems which have not only a physical, but a moral bearing. Whatever may be the conviction of parents as to the wisdom of school instruction concerning the origin of life, sane words will be found in these pages concerning the matter and methods of sex instruction in the home, purposely printed in Volume I., which, it is expected, will not generally be placed in the hands of children themselves. This department closes with a few encouraging words regarding exceptional children.

The third department is as interesting to the teacher as to the parent. The first portion of the department is simply a practical outline of the way in which the child develops from infancy to maturity. Educators are agreed that the future of a man's intellect is determined more fully by the home than by the school. Fathers and mothers must have training if they are to be competent educators. These are some of the vital matters discussed: teaching the child to talk, training the memory, encouraging inquisitiveness, teaching the child to reason, dealing with fear, constructive interests of children, training of the will. The latter portion of this depart-

ment is taken up with some of the special means of mental development, which our latest knowledge tells us are often as essential as school text-books: namely, play, home work and occupations, wise relationships to money; and the problems connected with the theater, motion-picture houses, and other public places for recreation and amusement.

The fourth department covers a very wide and important field. Under the special heading, "Companionship and Social Life," the matter of the child's playmates, the "gang," home parties and popular organizations, and the amusements of young people are thoroughly discussed. Next comes the live topic of vocation, upon which some essential words are spoken. Finally, the parent is given a view of the larger social relationships of the home, its coöperation with the school, its interest in the child-welfare movement and the other problems which our complex civilization is bringing to our doors. Formative as well as reformative organizations, which are becoming reinforcements to the home, are briefly described.

The fifth and most important department has to do with the moral life and training of the young. As usual, the opening articles, dealing with the facts in the case, are reinforced to show what the good child is and what it is we really want our children to become. Then an entire section is given to thoughtful, practical counsel concerning the moral training of children. The department closes with a broad and unsectarian approach to the great question of religious nurture, with some special references to the customs and ideals of the great religious communions represented in America.

The sixth and last department includes short and sensible talks to boys and girls about manners, personal appearance, habits, associates, and other cognate topics, and closes with a section devoted to the thoughtful but very lucid examination of the significance and value of the various traits which compose the well-rounded moral character. This material may be read and pondered by the young folks alone, or be used probably to even greater advantage by the parents, reading aloud a section at a time to their children, and discussing with them the topic concerned. The consideration of moral traits is given an added meaning and definiteness by references to their exemplification in the lives of famous men and women. This feature will encourage the intelligent and sympathetic reading of good biography, than which there is no more helpful and inspiring literature for the young.

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IDYL

. . . Sportive as the fawn
That wild with glee across the lawn
Or up the mountain springs.

HOME EQUIPMENT

1. Parental Equipment

A CALL TO PARENTHOOD

BY

REV. SHAILER MATHEWS

"NEW AMERICA" is not a merely rhetorical expression. The America we know is not the America we knew in our youth, and the America our children will know will be something different from ours. We live in a changing nation because we live in a changing order. America *is* what America is *becoming.*

For this, if for no other reason, the relation of the family to the nation is both dynamic and passive. It, too, is changing as it is affected by the forces that are making to-morrow. But it is itself also the source of change. A disintegrating home means a disintegrating society. A new generation will carry out into the world ideals or vulgarity which it has learned at home. The most superficial observer will not deny that the family as exemplified in American homes is passing through a transformation, which, although not beyond control, is full of portent for American society.

It is this double fact of a transformation of the family which is both in process and yet not beyond control, and of a direct influence of the family upon social transformation, that constitutes the call to American parents. The call, in brief, is one to an increased realization of the responsibilities of parenthood in a social order that has changed the conditions in which parental responsibilities were once exercised and yet needs parental influence as an aid in the maintenance of social ideals. As to what these changed conditions may be that set new problems to American fathers and mothers, it is not necessary to discuss in detail. It must suffice to describe briefly some of the most important.

The Change from Parental Authority to Parental Comradeship

1. *There is, first, the prolongation of parental youth.* It is not merely because we parents are not as old as our parents lived to be that we regard ourselves as relatively younger than they. The break in interests between growing children and their parents is not as marked as formerly. As we all know, the parent himself has many interests in common with his children, especially as they enter college age. The enormous development of sport leads fathers to share in something which their sons regard as of prime importance, even though their participation in sports be that of observers only. Golf has added a generation to the play-period of American men, while the universal interest in baseball and athletics of various sorts serves to perpetuate a comradeship between fathers and sons that the older days forbade. Mothers no longer find their interests limited to home and church. Their clubs and social duties keep them alert and their attitude of mind youthful.

The immediate effect of this change from authority to comradeship between parents and children has never, to my knowledge, been particularly studied, but it raises the question how far the new spirit of comradeship can preserve the legitimate elements of the older parental authority. If, for example, your son can out-box you, out-run you, and out-golf you, what becomes of that fear of the father that was once the beginning of filial obedience?

The Change from Parental Responsibility to State Responsibility

2. *A second change is the substitution of social for parental oversight of children.* In this respect our modern civilization has moved towards the ideals of Plato's "Republic." We look to society for our children's education in book-learning and for such education in morals and religion as they may chance to receive. We rely upon clubs and Boy Scouts for vitalizing

righteousness with athletics, and upon municipalities for playgrounds, playhouses, and instruction in playing. So far have we moved from the older conception that parents have responsibilities in this particular that it takes no special powers of prophecy to foresee a future in which the home shall be only the place where children are born, sleep, eat two meals a day, and are cared for during the period of infancy. And the State is already providing nurseries and kindergartens where mothers may be relieved of the care of their infants during part of the day. While we must regard this assumption of parental activities by the community as a welcome good in the case of the poor, it is none the less a symptom of a radical change in the conception of parental responsibilities and an appreciable influence in lessening the sense of parental obligation.

The Change from Home Occupations to Industrial Employment on the Part of Women

3. *A third element of change is the industrialization of womanhood.* The economic implications of such a change are receiving an ever-increasing attention, although unfortunately even in this regard society still works in the spirit of the opportunist. From the point of view of the family, however, the results are far less understood. True, we begin to see that the replacement of parental authority by community care is closely allied with the development of the industrialization of woman's life. But we have yet to develop ethical concepts and even social conventions for the family in which both father and mother are wage-earners. It is no solution of the problem to insist that the increased family income will permit the employment of unmarried women to care for the children. That, in the nature of the case, is only another phase of the general transformation of the sense of parental responsibilities.

The Change from Obligation to Individual Interest in the Case of Divorced Parents

4. *The increasing prevalence of divorce complicates the situation among families which are not Roman Catholic.* Parental responsibility cannot be assumed by both members of divorced couples. There has yet to be invented a code that shall teach the children which of their various remarried fathers and mothers they are to honor. The increasing number of de-parented children is a constant evidence that the obligation of parenthood is secondary to the individual interests of fathers and mothers.

These four elements of our new situation are by no means the only forces affecting the American family and through it American society, but they are sufficiently strong to cause apprehension lest the family should not be a helpful factor in the transformation of society. He would indeed be a wise man who could give advice fitted to forestall all the dangers involved, but one thing seems axiomatic: A society will not rise higher than its families. Barring the matter of divorce I neither see nor want to see a change in the general situation. Fathers and mothers should continue to enjoy the richer life granted them by our modern world. To protect and support our offspring is not the only function of those of us who are parents. We have our own individual lives, which, as lives go, are just as sacred as those of our children. But we need to adjust the profession of parenthood to our other professions and vocations.

The Four-fold Call to American Parents

The call to American parents is really four-fold. (1) First, is the call to *the establishment of a parental authority that shall pre-suppose comradeship and be defensible as just.* Fathers and mothers should be the friends of their children but they should be something more. In our illumined world there is danger lest the command that children honor their parents should be revised into the command, "Parents, humor your infants and send out questionnaires about adolescents." The word authority, I admit, just now is not very popular, pedagogically speaking, but I am convinced that there will be no more regard for authority in the nation than there is regard for authority in the nation's homes. The American parent has proved unfaithful to the State, to say nothing about his children, when he has given his sons and daughters a monthly allowance and has then let them do what they please. Even in our modern disillusioned families there is plenty of need for children to learn that experience counts for something; that fathers and mothers know more than their children as to the proper time to go to bed, proper persons to play with, proper things to eat, proper books to read, and proper plays to see. The authority of experience can always be shown by parents to be based on justice. It takes more patience to exercise this order of authority and to explain the reason for its exercise than it does to punish children or to be good-natured and let them do whatever they like. But the call to such patience and to accompanying firmness in dealing with children, whether small or large, is not to be ignored. Children who wheedle their parents into letting

them act foolishly, are being educated to bribe legislatures into letting them act lawlessly.

Young Folks Not Alone in Their Need of Moral Education

There is, therefore, need for the moral education of parents, as well as of children. Just as charity testifies to the failure of our present industrial order, the need of turning boys and girls over to clubs to keep them out of mischief is a tribute to the decline of American parenthood. How many good-natured American papas would serve as substitutes for the ancient Hebrew father as the moral symbol of God?

(2) A second call to American parents is to *the maintenance of a rational standard of living.* Thrift is all but extinct in the average American family. We not only live up to our income, but we live beyond it. Too many of us neither practice nor inculcate self-denial. We let our boys and girls grow up with no clear conception of the value of money, and send them out into the world slaves to wants which as parents we have no right to develop even for ourselves. The rising generation of Americans is being trained to enter life with the same standard of living, the same social ambitions, and the same scale of expense as their parents have attained only in their maturity. If we have nothing else to bequeath our children we ought to leave them a rational standard of living. The boy who sees his father borrow money to buy a motor-car is being taught that a penny saved is a penny lost. Thrift may be a *bourgeois* virtue, but we have not yet established a Utopia in which it will be unnecessary for our children to pay their bills.

Moral Idealism and Family Affection

(3) A third call to American parents is to *educate children in a contagious moral idealism.* We hear a vast amount of advice to the effect that children are to be taught the mysteries of sex. There are few subjects more in the foreground of some educational philosophies. It almost seems as if the sum and substance of the training which parents should give their children is physiological. There is, of course, an element of need here, and this I would not minimize, but I profoundly believe that the maintenance of moral ideals in families will do vastly more for the maintenance of chastity than a perpetual discussion of eugenics. After all, the great principles that build up individuals and nations are not physiological or neurological, important as these may be. A healthy virtue never rested finally on a healthy body. We still are souls, even though we may have lost the definition of what souls are. It is a mistake to teach boys and girls to substitute physiology for the decalogue. Lives grounded in moral idealism withstand temptations far better than lives which have been taught only a prudential chastity. Though parents have the tongues of physicians and though children know all sex-mysteries and have not cleanness of mind, it profiteth nothing. And cleanness of mind is *caught* rather than *taught.* So too is the spirit of family love. If parents want their children happily married they must make their own marriage happy. A home in which the father and mother maintain the courtesies born of Christian ideals, is a far safer place for growing boys and girls than a family in which such relations are cheapened by commonplace quarreling. American parents need to wear their company manners at home. A disintegrating love between parents will re-appear in selfishness and vulgarity, if nothing worse, in the children. This may seem old-fashioned to those who believe that children can be enlightened into moral enthusiasms. For my part I believe that such enthusiasms are contagious—a form of life, rather than of intellectualism. Fathers and mothers are not merely men and women who have had children; they are parents with a home to maintain and ideals to bequeath.

A Meeting-House Religion Is Inferior to a Dwelling-House Religion

(4) A fourth call to American parents is to *the establishment of family religion.* Such an appeal can come only to those who are committed to the religious view of life; but a society in which there is no leaven of religious families will never be made thoroughly religious by Sunday-schools and revival-meetings. A meeting-house religion is not the moral equal of a dwelling-house religion. Take men and women as you find them, and you will too often discover that the religion of the average American family is either a survival of its grandfather's or is less in evidence. Unless all signs fail, during the past few years there has been a rapidly progressing obliteration of family religion, both in the form of family prayer and that of saying grace at meat. We do not even expect our children to sit with us in the family pew. The rush of our daily life, the erection of new and imperative interests, even the rise of Sunday-schools, have conspired to this end. This is not to say that fathers and mothers are not religious, but rather to say that they are religious away from home. They can talk about religion to other people's children more readily than to their own. Yet a religion that does not find its expression in the

family group is not likely to propagate itself beyond the second or third generation.

Cure the Evils of Progress by Moralizing the Forces of Progress

This four-fold call to American parents constitutes a demand that the family, as the family, be given its proper status in American society. But such reinstatement cannot be made by law. It must be a matter of the conscience of individual fathers and mothers. The center of their interests must pass from their wants and enjoyments as men and women to their obligations as fathers and mothers, to the needs of the child, or better to the needs of the family unit. Divorce is a domesticated pathological individualism. It can mostly be prevented by sanctified commonsense, the practice of commonplace seif-sacrifices, and a revived devotion to the up-bringing of children. If parents will make such a shift of emphasis from the individual to the family needs, many of the difficulties implicit in the changes through which American society is now passing will be offset. There is no cure for the evils of progress except the moralizing of the forces of progress. The family is one of the agencies by which every individual parent may make his contribution—be it ever so humble—to this moral re-birth. The Church must grapple with one of its old-time duties: it must evangelize parental as well as civic relations; it must train men and women to educate the children in their own homes, as well as to rescue other people's children from evil homes.

EUGENICS: THE SCIENCE OF HUMAN IMPROVEMENT

BY

CHARLES B. DAVENPORT

THERE comes a time in the life of most thoughtful, cultured people when they realize that they are drifting toward marriage and when they stop to consider if the proposed union will lead to healthful, mentally well-endowed offspring. But however much such a person may take advice of books or friends, he will find such a lack of definite knowledge that, shutting his eyes to possible disaster, he decides to take the chances. Were our knowledge of heredity more precisely formulated there is little doubt that many certainly unfit matings would be prevented, and other fit matings, that are avoided through false scruples, would be happily contracted. I propose briefly to consider what is the present state of our knowledge of the inheritance of various characteristics.

Necessary Limitations of Discussion

The limitations in the scope of this article must be made clear at the outset. As a biologist, not a physician, I shall not consider many acquired conditions which render unfit for marriage. Governments spend scores of thousands of dollars and establish rigid inspections to prevent the spread of the coitus disease of the horse, but the spirochete parasite that causes the corresponding disease in man, and entails endless misery on hundreds of thousands of innocent children, may be disseminated by anybody, and is being disseminated by scores of thousands of persons in this country, unchecked, under the protection of the "personal liberty" flag. Alas, that so little thought is had to the loss of liberty of the infected children! Marriage of persons with venereal disease is not only unfit; it is a hideous and dastardly crime; and its frequency would justify a medical test of all males before marriage, innocent as well as guilty. Fortunately there exists for syphilis at any rate a test so simple that there can be no more objection to it on any sentimental ground than to vaccination.

Nor do I propose to consider in any detail the effects of drugs on germ-plasm. The matter awaits further investigation. Meanwhile experience indicates that the marriage of alcoholists, certainly, and of users of any drug to extremes, probably, is associated with defective development of offspring, and is, in so far, unfit. Also the class of cases in which, as in tuberculosis, a weakened person is quickly finished by the drain of reproductive processes, bears on marriage fitness but does not belong to my topic in the narrow limits I assign it. For my topic deals rather with the result of union of two uninfected germ-plasms with their *inherent* peculiarities.

Under these limitations, then, I may say that recent developments in the study of heredity, commonly associated with the name of Mendel, enable us to formulate more precisely than hitherto the working of heredity. Three funda-

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mental principles are to be kept clearly in mind: The principle of independent unit characters; the principle of the determiner in the germ-plasm; and the principle of segregation of determiners.

Explanation of the Three Fundamental Principles

1. The principle of independent unit characters states that the qualities or characteristics of organisms are, or may be analyzed into, distinct units that are inherited independently. It follows that the characters of a parent or a particular relative are not inherited as a whole, but that each individual is a mosaic of characters that appear in a variety of relatives.

2. The principle of the determiner in the germ-plasm states that each unit character is represented in the germ by a molecule or associated groups of molecules called a *determiner*. These determiners are transmitted in the germ-plasm and are the only things that are truly inherited. It is a corollary of the theory of inheritance from the determiner that we do not inherit from our parents, grandparents, or collaterals; but related individuals have some common characteristics because developed out of the same germ-plasm with the same determiners. A child resembles his father because he and his father are developed from the same stuff. Both are chips from the *same* old block. In relation to determiners some characteristics are positive, depending directly upon them; while others are negative and depend upon the absence of a determiner. Thus a brown eye depends on an enzyme that produces the sepia-colored pigment, while a blue eye depends upon the absence of such an enzyme. It is not always easy to anticipate whether a given characteristic is positive or negative. For instance, long hair, as in angora cats, sheep, or guinea pigs, is apparently not due to a factor added to short hair, but rather to the absence of a determiner that stops growth in short-haired animals.

The Principle of the Segregation of Determiners and Its Corollary

3. The principle of segregation of determiners in the germ-plasm states that characteristics do not blend. That if one parent has a characteristic while the other lacks it, then the offspring get a determiner from one side only instead of from both sides, and when the germ-cells are formed in such offspring half of them have the determiner and half of them lack it. There is thus a segregation of presence and of absence of the determiner in the germ-cells of the mixed offspring. The characteristic in the offspring that is due to a single (instead of the normal double) determiner is called a simplex characteristic. Such a characteristic is frequently distinguishable from one that is due to the double determiner by its imperfect development. Thus the offspring of a pure black-eyed and a blue-eyed parent will have brown eyes.

It is a corollary of the foregoing that if the individual with a simplex character be mated to one lacking the character, half of the offspring will lack the determiner and half will be simplex again, in respect to the character. If in both parents the character be simplex, then two like determiners will meet in one-fourth of the unions of egg and sperm; the two will both be absent in one-fourth of the unions; and one only will occur in half of the unions—such will be simplex again. If one parent have the characteristic simplex and the other duplex, then half of the offspring will have it simplex and half duplex.

A Generalization—Illustrations from Hair-Color and Eye-Color

Starting with the principles just enunciated we reach at once the most important generalization of the modern science of heredity:—*When a determiner of a characteristic is absent from the germ-plasm of both parents (as proved by its absence from their bodies) it will be absent in all of their offspring.* In order to predict the result of a particular mating it is necessary first to know what similar unit characteristics both the parents lack, what they both possess, and in which characters they differ; and, secondly, to know for each characteristic whether it is due to the presence of a determiner or to its absence. This can, in part, be determined experimentally or inferred from pedigrees. Nevertheless our knowledge of determiners progresses slowly; for here, as in other branches of science, nature's secrets have to be forced from her.

To illustrate the precision with which the characteristics of offspring may be predicted in the best-studied cases, I may refer to eye-color. Blue eyes are due to the absence of brown pigment. If there is a determiner for brown iris pigment in the germ-plasm it will produce such pigment in the body that arises from that germ-plasm. The absence of iris pigment is proof of the absence of the pigment determiner from the germ-plasm. If both parents lack brown pigment, their offspring, being devoid of the determiner for brown pigment, will all lack brown pigment. As a matter of experience, two parents both with pure blue eyes will have only blue-

eyed offspring. Similarly, if the hair of the parents be flaxen, that is evidence of the absence of a hair-pigment determiner in their germ-plasm. In the united germ-plasms of two flaxen-haired parents there is no determiner for hair pigment and all children will have flaxen hair. This agrees, again, with experience. For the same reason, parents both lacking curliness or waviness of hair will typically have only straight-haired children.

Hair-color and eye-color are characteristics which serve well to illustrate the precision of the modern science of heredity, but they are ordinarily considered to be immaterial to well-being. But if it is true, as Lieut.-Col. Charles E. Woodruff, U. S. A., maintains, that pigmentation protects individuals from the injurious effects of the tropical sun's rays, then one may say that the marriage of two blue-eyed persons in the tropics would be an unfit marriage. On the other hand, the marriage of a blond with a brunette would be fit, for the darker consort would bring into the combination the determiner for pigment and ensure a dark progeny. In the tropics, then, the marriage of light with dark or of two dark persons is, by hypothesis, a fit mating, while that of two blonds is unfit.

The Study Extended to Abnormalities and Diseases

We may now extend the study of the method of inheritance to cases of abnormalities and diseases, and we shall see that just as it is hard to draw the line between these two sorts of characteristics, so they show no difference in their general method of inheritance. A typical example of an abnormality is that of brachydactyly, or short-fingeredness, a condition in which each digit comprises only two phalanges—the fingers are "all thumbs." This result seems to be due to an inhibition of the normal growth process. An abnormal person married to a normal will beget 100 per cent. or 50 per cent. abnormal, according to circumstances, and such a marriage is unfit; but two parents who, though derived from brachydactyl strains, altogether lack the inhibitor of growth, will have only normal children, for normality implies entire absence of the determiner that stops the growth of the fingers. Such a union is entirely fit.

The rule that the abnormal condition is *induced* by something, so that normal parents never produce abnormal offspring, holds for many abnormal conditions, such as presenile cataract; the congenital thickening of the skin known as keratosis; xanthoma, in which the skin acquires yellow patches; hypotrichosis congenita familiaris, or early absence of hair, and other abnormal conditions of skin and hair. Probably the same is true of diabetes insipidus and stationary night blindness. In all these cases the intermarriage of normal descendants, even of abnormal ancestry, is entirely fit; but abnormals will reproduce their peculiar condition.

In another class of cases the abnormal or diseased condition is due to the *absence* of a characteristic or quality. Thus albinism is due to the absence of pigment, and two albino parents have only albino children. Normal offspring of an albino and a pigmented parent may transmit the albinic condition; and the marriage of a pigmented male of an albinic strain with the pigmented female of another albinic strain or with a pigmented cousin is unfit. In the case of the degenerative disease of the retina known as retinitis pigmentosa, normals may carry the disease so that two normal cousins from retinitis stock may have offspring with retinitis. In fact, a large percentage of all cases of retinitis come from consanguineous marriages. Surely such marriages are highly unfit.

Some Scientific Conclusions concerning Deaf-Mutism

Deaf-mutism is due to a great variety of causes; any one of a variety of defects may produce it. But in different individuals of the same family the chance is large that it is due to the same defect. This defect is frequently recessive, hidden in the normal children. Two such normal children who are cousins and from deaf-mute stock tend to have about one-quarter of their offspring deaf-mutes. The proportion of congenitally deaf offspring is thrice as great among cousin-marriages as among others. The conclusion of Edward A. Fay, based on extensive statistics, deserves to be widely known: "Under all circumstances it is exceedingly dangerous for a deaf person to marry a blood relative, no matter whether the relative is deaf or hearing, nor whether the deafness of either or both or neither of the partners is congenital, nor whether either or both or neither have other deaf relatives besides the other partner." Such a marriage has proved to be unfit.

Definite Statistics of Imbecility

Passing next to the group of mental diseases we find several forms which seem to be due to the absence of some simple unit, so that when both parents exhibit the abnormality all of the children do likewise. As a first case may be taken imbecility. That imbecility is due to the absence of some definite simple factor is indicated

by the simplicity of its method of inheritance. Two imbecile parents, whether related or not, have only imbecile offspring. Barr gives us such data as the following from his experience: A feeble-minded man of 38 has a delicate wife who in 20 years has borne him 19 defective children. A feeble-minded epileptic mother and an irresponsible father have 7 idiotic and imbecile children. The L family numbers 7 persons, both parents and all 5 children imbecile. Among the "family records" I have been collecting there occurs the R family where A (insane) marries in succession two mentally weak wives and has 13 children, all mentally weak. In a case described by Bennett, a defective father and imbecile mother have 7 children, all more or less mentally and morally defective. There is, so far as I am aware, no case on record where two imbecile parents have produced a normal child. So definite and certain is the result of the marriage of two imbeciles, and so disastrous is reproduction by an imbecile under any conditions, that it is a disgrace of the first magnitude that thousands of children are annually born in this country of imbecile parents to replace and probably more than replace the deaths in the army of about 150,000 mental defectives which this country supports. The country owes it to itself as a matter of self-preservation that every imbecile of reproductive age should be held in such restraint that reproduction is out of the question. If this proves to be impracticable then sterilization is necessary—where the life of the State is threatened extreme measures may and must be taken.

Other Illustrations of Inheritance

Maniac-depressive insanity seems likewise due to a defect, in any case it is especially apt to occur in families in which both parental strains show the disease. While, on account of the complexity of nervous diseases, all of the children even of two neurotic parents are not always neurotic, the chances of this result are much increased when the parents are related.

The case of partial hermaphroditism is peculiar because it affects usually only the male sex. The inhibitor of complete sex differentiation seems to be dominant in the male—the embryologically more advanced sex—though it may fail to activate in and is indeed irrelevant to the female sex. Since the abnormality is necessarily revealed only by the male sex the condition of the female is no test of her germ-plasm in respect to this characteristic. As a matter of fact the normal mother may easily represent the defective strain. A normal male belonging to the defective strain is usually without trace of the inhibitor, yet a few cases are known of an apparently normal person with an inactive "inhibitor" having, by a normal consort, some abnormal sons. But, in general, the marriage of females belonging to hermaphrodite (hypospadic) strains is unfit, while normal males of such strains may marry females from normal strains.

The case of Huntington's chorea is a striking one of inheritance of disease. This is a form of chorea that leads to dementia and death. A. S. Hamilton has worked up the pedigree of many cases. The mating of two parents with chorea is obviously highly unfit and should not be permitted.

Some Commoner Diseases Considered from Records Collected by the Author

Let us now consider the hereditary behavior of some of the commoner diseases, including those which, while not fatal or likely to incapacitate a person, nevertheless interfere much with his happiness. Knowledge in this field is less precise, although the general teaching is not less clear. As a source of information I rely chiefly on the records of health and other characteristics furnished for over 200 families by members of the families concerned. These are largely representatives of professional circles, but include also farmers and people in commercial life. In the pedigrees collected nothing is more evident than that usually specific diseases are not inherited but only a condition of liability or non-resistance to a particular class of disease. Often an entire organ-complex is thus non-resistant. A good example of inheritance of general weakness in an organ is sometimes found in the case of the mucous membranes.

Looking over these pedigrees, one is impressed by the fact, first, that the incidence of diseases is not haphazard nor, in any large family, do the various causes of death occur in the proportions given in the census tables for the population as a whole. Tuberculosis of the lungs is the cause of more than 10 per cent. of the deaths in the United States, but it would not be difficult to pick out of my collection ten families comprising about 100 deceased persons among whom, instead of the expected 10, not one died of consumption. Similarly there are many families in which no nervous disease has occurred in three generations; others without kidney diseases, and so on. On the other hand, in other families 40 to 50 per cent. or even 80 per cent. are attacked by lung and throat troubles or nervous defects. These differences cannot be attributed chiefly to environment, because they occur in families of

which the members are widely dispersed and have varied occupations. They indicate fundamental differences in the protoplasm.

The Controversy between Heredity vs. Environment

But, it may properly be urged, how about environment? Are not many of these examples of occurrence of disease in one family due to infection or to similar untoward conditions? I do not doubt that they *all* are. The controversy between heredity vs. environment has no good basis and it is fallacious to emphasize the distinction. As well might one ask whether poor seed or poor climate is the more important in determining poor crops; both are important. Nevertheless, emphasis must be laid on the fact that while poor climate brings heavy losses, there are strains that you can hardly kill by frost, nor by drought, nor by poor soil, nor by the wilt parasite—there is such a thing as resistance in the blood as well as, on the other hand, *susceptibility* of particular organisms to poor environment or to infection. Unfavorable environment collects its toll first from those who are, by heredity, least resistant.

Practical Application of Observed Facts—The Fundamental Law of Unit Defects

Granting the fundamental fact of the diversity in resistance or liability to disease of the different protoplasms, it remains to be considered how these facts are to be applied in selecting consorts so as to secure healthy children. In some cases, at least, definite rules may be laid down. The fundamental law is, as already stated: Whenever the same unit defect exists in both parental protoplasms it will appear in all the offspring. The "unit defect" is not, as already pointed out, easily determined, nor is a given gross defect probably identical in the parental strains unless the parents are cousins. Despite these difficulties in its application the rule holds, by and large, as a valuable first approximation.

Of unit defects, the weakness of mucous membranes seems to be a good illustration. If both parents are subject to colds, catarrh, bronchitis, asthma, or lung-tuberculosis, all or nearly all of the children are liable to these diseases. The same is true in some forms of nervous disease and rheumatism. If the disease fails to appear in any child it is probably because the child died too early, or is still very young, or has been able, through exceptionally favorable environment, to avoid the incidence of the disease, or, by strengthening other means of defence, to hold it down or eliminate it, even after attack. The expectation that is usually realized, however, is that all shall show a weakness to the same disease as their parents.

Further Deductions from the Author's Data

If liability to the disease is found in the protoplasm of both parental strains but is shown in the soma of only one of the parents, then it will probably occur in one-half of the offspring. The total of the last generation in these examples gives 18 subject to the specific disease and 23 non-subject where 20½ and 20½ are expectation. The excess of the non-subject may be explained on the same ground as the exceptions to complete incidence of disease referred to in the preceding paragraph.

If both parents belong to strains having the same unit defect, even though they have it not themselves, we may expect either that one-quarter or none of the children will have the defect, depending on earlier ancestry. This rule is illustrated by some of my cases. If one parent belongs to a strain with a unit defect while the other strain is without the defect, then the children will be without the defect.

To the rule that a strong characteristic from one strain may overcome the defects of a weak characteristic from the other strain there are some apparent exceptions; due chiefly to the fact that the simplex condition is rarely quite as strong as the purely positive condition, so that defects are not wholly overcome, and to the fact that the supposed pure positive strain may contain a hidden defect and be really only simplex.

Recognizing these limitations in our knowledge, which, it is believed, further accumulation and study of data will overcome, how far can we go in advising, in the case of the commoner hereditary diseases, what matings are and what are not conducive to healthy offspring?

The foregoing considerations indicate: If (*a*) the *negative* character is, as in polydactylism and night blindness, the *normal* character, then normals should marry normals and they may even be cousins. If (*b*) the negative character is *abnormal,* as in imbecility and liability to respiratory diseases, then the marriage of two abnormals means probably all children abnormal; the marriage of two normals from defective strains means about one-quarter of the children abnormal, but the marriage of a normal of the defective strain with one of a normal strain will probably lead to strong children. The worst possible marriage in this class of cases is that of cousins from the defective strain, especially if one or both have the defect. In a word,

the consanguineous marriage of persons one or both of whom have the same undesirable defect is highly unfit, and the marriage of even unrelated persons who both belong to strains containing the same undesirable defect is unfit. Weakness in any characteristic must be mated with strength in that characteristic; and strength may be mated with weakness.

EUGENICS

BY

WILLIAM BYRON FORBUSH

"Eugenics is the science of the improvement of the human race by better breeding."

THE "Science of the Well-Born" is the newest of the sciences. Nourished in the visions of students and philanthropists, it has so far received hardly more than its christening. Yet what program could be both more worthy and more ambitious than that which would give to every child, yet unborn, the rightful heritages of health, intellectual opportunity, and possible efficiency and happiness?

An Outline of the Principles of Eugenics, in Simple Terms

Listen to two stories—the history of two American marriages from which have sprung and are still springing hundreds of citizens bearing the marked traits of one or the other. In the early days of the New England Colonies a tall, beautiful, striking woman, Elizabeth Tuttle, was married to an equally tall and striking man, Richard Edwards. Their only son was a brilliant man and the father of Jonathan Edwards, from whom were descended five college presidents, besides inventors, authors, and other leaders of the Republic. The mental qualities all came from the brilliant, strong-willed, able-minded Elizabeth, for the descendants of her four daughters included inventors, educators, and two Presidents of the United States; while when Richard Edwards married a mediocre woman as his second wife none of the progeny of their five children rose above the level of ordinary citizens.

In contrast to this is the striking case of an unknown woman, living in the backwoods of New York State, who transmitted her immoral and depraved nature to two daughters, who married the two good-for-nothing sons of a lazy, defective man called Max Juke. For five generations their descendants were, almost without exception, idiots, paupers, alcoholics, immoral, and criminals. It was calculated that the progeny of the mother of the Juke girls had cost the State over a million and a quarter dollars in seventy years — and their descendants are still multiplying.

Does it not seem fair that every young man or woman about to marry should have the privilege of knowing what chances there are for their children to be strong and free from inherited taint? Does it not seem wise to teach young people, as they grow up, what the consequences are of marrying into families with a pronounced history of alcoholism, or degeneracy, or disease; and is it not well for them to know definitely what family diseases are likely to be inherited?

Everything has hitherto been vague concerning all inheritance except that of property. Family trees never show the quality of fruit borne on their ramifying branches, and the only popular knowledge of heredity is summed up in the idea that it is unwise for cousins to marry and that some royal families have become degenerate because they have intermarried, and that insanity or a taste for liquor is likely to come out in the children. Further than that our ideas have had no data to work on.

The Two Bags of Nuts and Certain Combinations

But certain investigations have shown that there are laws which explain how and when certain mental traits may or may not be inherited, as well as why two blue-eyed people cannot have a brown-eyed child, but why two brown-eyed people may have a blue-eyed child. All our inheritance comes from what scientists call the germ-plasm of the father and mother. To form the first new child cell only half of the mother cell joins to half of the father cell; the superfluous halves are lost. If one had two bags full of mixed nuts and were to empty half of each on a table and mix the contents together there would be certain combinations of results. If there were no chestnuts in either bag there

could be no chestnuts in the mixture, just as when there is no brown coloring pigment in either parent there can be no brown eyes in the children; but if there were some chestnuts in one bag and none in the other, in one combination of mixtures there might be chestnuts and in the others none, and in the same way as there is some coloring pigment in a brown-eyed parent and none in a blue-eyed parent some of the children of two such parents would have dark eyes and some blue eyes. Even though there were some chestnuts in each bag, it might just happen that none were poured out in the heap that lay on the table, and so in the same way two brown-eyed parents might beget a child with blue eyes.

This Principle Applied to Positive Characteristics

Now, to apply this principle to positive characteristics in less visible traits, suppose there is no resistance against germ diseases, suppose both parents came of tuberculous families and had tuberculosis themselves, proving their weak resistance, the child undoubtedly will inherit weak resistance, and only the greatest care, fresh air, good food, quiet and exercise will build up a strong body. Most of these children with very weak resistance are those that die under two years of age from some germ infection. Thus, they do not reproduce their weakness. Suppose now that each parent has poor eyesight or a poor stomach, or some mental quirk that does not, however, lead to early death, there is every probability that most of the children will have the same trouble, though it may happen that one child will escape. If one parent has a weakness and the other has no sign of it, some of the children will undoubtedly escape, but some will probably inherit the characteristic. The peculiar thing, however, is that the children who show no sign of the weakness of one parent may have it in their own germ plasm and pass it on. Some forms of insanity, epilepsy, and alcoholic tendencies will skip a generation. That is because the inheritance lies not in the individual's body but only in those germ-cells of reproduction which express in each individual the summing-up of all that came to him from the two halves of his parents' germ-cells.

Therefore, even when two healthy young people marry it is very important for them to know that there have been no prohibitive diseases on either side of the family that have shown in cousins, for if both should have in their family weak-minded cousins or epileptic relations of the generation before, it is probable that some of their children will be weak-minded or epileptic. But, if both be healthy and there be some defect on one side only, the children have a pretty good chance of being healthy.

Among the characteristics that are accentuated by the marriage of two people with the same kind of family history are blindness, deaf-mutism, the tendency to have twins, the tendency to throat-troubles, adenoids, tonsilitis, the tendency for wounds to bleed without any possibility of checking them, the tendency to pneumonia, to Bright's disease, to melancholy thoughts and suicide. Just as marked in inheritance are such characteristics as scholarship, ease in learning languages, some artistic expression, such as music, poetry or painting; the power of generalship, the power of governing, the power of oratory. Even though only one ancestor be gifted in several ways, yet there is the probability that the germ-plasm has contributed something to the child, and that if the opportunity be given to him he will develop some of the best strains. Of course, the greatest inheritance comes from the father and mother. If they both are talented in one direction the child is almost sure to have their powers in marked degree. If the grandparents have been talented the child has a quarter of the chance that he would have had if his parents also were talented.

The Practical Value of the Study of Eugenics

The value of the study of Eugenics will be seen when public sentiment demands that criminals, imbeciles, epileptics, chronic alcoholics shall be kept apart and prevented from having children. This will be the first safeguard. The next will be the necessity for publicity of the diseases and characteristics of families, so that young people may know the kind of mate they are choosing. It needs only the working up of a healthy sentiment to make it as desirable to marry "blood" as money.

The practical thing for every parent to do is to let their children travel and meet people with very different characteristics; the small country communities where the same families continually intermarry produce degenerate strains that are constantly being intensified.

When young people marry in cities, especially in America, there may be almost no knowledge of the other's ancestry, even of their immediate family. But the young man or woman of to-day has a right to know the ancestry of both his or her child's parents. Each has a right to exact a health standard as well as a moral one. It would be a great help if family genealogies were

kept, showing what each individual died of and from what diseases he had suffered.

All thinking fathers and mothers will see that, as Dr. Davenport says: "The State not only has the right but the duty to make a thorough study of all the families in the State to know their good and bad traits."

An ordinary census, giving mere numbers of men and their callings, is not enough. Competent persons, like school teachers, should be employed —at a good compensation—for vacation work to go at least to all the homes of all their school children. These should note all the families where the parents are known to be especially clear headed or have great manual dexterity, or mechanical or artistic ability. They should note also all the families where there are feeble-minded members, epileptics, where any of the family are subject to delusions, melancholia, where there is a tendency to run away, steal or do cruel deeds. They should at the same time find whether the family history shows a tendency to certain diseases, such as tuberculosis, rickets, cancer, chronic rheumatism, gout, eye and ear defects, and numerous other diseases with a hereditary factor.

All of these things are of quite as much importance as learning the age and occupation and birth-place of individuals, although this latter fact is of the greatest value in showing which families belong together.

Then such intelligent people should counsel parents in whose families are particular traits how their children should marry to intensify their good points in their offspring and to avoid perpetuating any bad trait. This would doubtless be of as much interest and quite as impressive as the prophecies of a fortune teller and would make a serious impression upon young people.

But, we may ask, may not the statistics of hereditary diseases and "skeletons in closets" brought to light by such investigations prove very upsetting to parents, who, having married perhaps unwisely, will feel that their children are doomed through their own ignorance?

Euthenics, the Sister Study of Eugenics—What Arnold White Says

There is hope even in the darkness through the sister study of Eugenics, which is known as Euthenics. Euthenics deals with race improvement through environment. It studies the hygiene of the present generation, while Eugenics deals with race improvement through heredity for future generations.

Even though parents may discover that they have unwittingly doubled bad traits for their children there is often still time to save their children from the onset of many of the diseases that they are heirs to by keeping the predisposed to germ diseases in uninfected places, by building up their health with good food, by placing a tendency to eye defects in the hands of a good oculist, by bringing up children with a neuropathic tendency to live a simple life free from excitement, by training those with brain defects to manual outdoor work.

Even when all is said and done, reproduction is not our only function. The flowers of our race sometimes produce no fruit.

Arnold White says: "Much of the best work of the world is done by the irritable, sanguine, nervy, resolute people, with great engine-driving power, not by those men and women whose machinery is perfect and whose souls float in a perfect frame."

We must remember that Julius Cæsar was an epileptic and would come under the type of those whose reproductions we would ban. His other inheritances and his opportunity made up for his one defective inheritance.

But, broadly speaking, just as a few people still retain the hairy skin and the long coccyx of their primitive ancestors, so a few people still retain the animal expression of sex, of cruelty and mental stupidity which are all right in apes but not in man. If men showing these traits can be kept from reproducing, and if by sentiment and science we can inspire young people to look for strong physical and mental qualities in their mates, we should in a few generations have entered a golden age.

Eugenics as a Public Concern—Work toward the Education of Girls

Eugenics has to do with the instruction of future fathers and mothers in the laws of parenthood, in the purity of sex relations, and the consequent abolition of the transmissible diseases produced by sexual vice, in the prohibition of marriage and marriage relations between the unfit, and in the encouragement of those who are most fit for parenthood to seek its opportunities and duties. In short, it desires that better people shall become better parents of better children. It would renew the world by the propagation of its strongest and best stocks.

Eugenics boldly states that these are matters that can no longer be held to be of purely private concern.

Regarding Eugenics as a public concern, Professor Irving Fisher says: "It should be recognized that a mother is a public functionary. She

is the instrument for the pre-natal nurture of the next generation." Eugenics has, therefore, given its first care to the training of future mothers. Herbert Spencer fifty years ago said that if future antiquaries should examine our school papers they would decide that ours was not a curriculum for anybody but celibates. Eugenics commends direct instruction in mother-work, such as has been given in l'Ecole des Mères in Bordeaux since 1897, and in the Association of Housekeeping Centers of New York City more recently, and such as has been proposed in "Infant Science Academies" in various cities in this country. It advocates the direct approach to the matter with all girls by the education of each in the care of her own body, mind and soul, to become fit in all three ways for her share in the production of healthy, intelligent and good children. We have so far only begun the effort in this direction, and have even scarcely learned the wisest methods by which to bring about the desired result. In the courses of biology and domestic science in the high schools there are some beginnings in this direction. The study of evolution in biology forms a natural and proper introduction to the physical facts of parenthood, while domestic science, broadened to include boys as well as girls, involves the science of the home and the care of little children. Work of this sort is admirably done, especially in some of our State agricultural colleges and a few colleges and finishing schools for girls. The great majority of the young people who most need this information, however, leave school in the fifth and sixth grades, and there seems to be no possibility of any instruction which shall reach the entire youthful population, unless it is brought into these elementary years when perhaps the children are scarcely ready to appreciate or assimilate it. There is some hopefulness, however, in teaching experiments in the grades, as well as in work which is being done in night schools and in classes organized by women's clubs.

Further Helps Advocated

Eugenics also advocates the scarcely less definite help of cooking classes, kitchen gardens and classes in nursing. It advocates the multiplication of home-making courses in women's colleges, and such a change of emphasis as shall place home life before women students as being as noble and possible a profession as is self-support and independence. It would have as a goal that no girl should lose her virtue through ignorance and weakness, that none should enter the marriage state without definite preparation, and that ideals of purity, parenthood, and public service through the bringing to birth and ity of sound, well-nurtured children sh generally exalted.

A Similar Program for Boys—Cult Noblesse Oblige

A similar program is sought for wi They, too, are to be informed of the natu pose, and control of the sex functions bef mature, and of the peril of their abuse are especially to be instructed as to the and lifelong effects of the two disease follow illicit relations, upon themselves a future wives and children, and to be giv conception of the ravages these disea making in society. But we are coming that while knowledge and fear are de "sex hygiene," as Dr. G. Stanley Hall us, "is two-fold, of the body and of the and the lad who is going out into a m world which still holds the savage co that woman is a legitimate object of cha chiefly be educated through his idealisms, fiction of the day, the drama and the c tion of his companions all tend to encour to believe in and to practice five danger absolutely false doctrines: "(1) That the of the sex function is sensual pleasure; (one has a natural right to indulge his impulse as he pleases; (3) That such in is a physical necessity, essential to the p tion of virility; (4) That chastity is not under the conditions in which the maj young men live; (5) That his need is re in the setting apart of a certain class of as instruments of sensual pleasure." I have a self-respect, a *noblesse oblige,* wh him above the brutes. He must retain a which shall hold all womanhood in ver He must even have a positive knightlines shall make him her aggressive protecto haps he may be influenced to rise to th of thinking of himself as crowned with nity of being the medium of transmissio race and its future. In boyhood especi home atmosphere, hygienic habits, a clea life, plenty of occupation, and perhaps o tion with other boys in societies of c ideals, will be important supplemental in The White Cross Society and the Kni King Arthur are organizations that are undertaking to do this. The Society of and Moral Prophylaxis in New York, ar organizations for instruction in sex hygi actively doing educative work, and they e deserve confidence because they contain a erable number of respectable physicians,

moving their influence out of the realms both of quackery and of emotionalism.

Measures Taken for the Protection of Women

The protection of woman, the future mother, has engaged attention recently in many directions. Laws have been passed and international arrangements made to prevent the white slave traffic from one country to another. There are societies which meet and warn and protect the young female immigrant, and Travelers' Aid Societies and women's hotels in all large cities, to guard women traveling alone. The Society for the Suppression of Vice destroys tons of immoral literature and appliances, and chases the makers and dealers to their hiding-places. There is a movement now to watch city employment agencies, 75 per cent. of which have been found willing to send women to disorderly houses. The child labor movement has motherhood directly in mind, both in securing laws that shall protect prospective mothers from work, and in defending girls from toil under conditions as to surroundings or salary that tempt to immoral living. Laws have been formulated both in England and America to prevent the toil of mothers who have just given birth to children and endowing them financially, when necessary, with funds to enable them to rest and be cared for.

The subject of prostitution need not be discussed at length here. One or two facts seem to be settled. "The majority of girls," as Judge Mack says, "do not start in wrong courses from love of lust, but from love of joy." Ignorance, hardships, reaction from miserable surroundings, desire for pretty clothes, and the gladness that belongs to youth, are the causes that lead girls astray, but the powers that impel them are the greed and the lust of men. The degradation of womanhood is a business as well as a vice. The fact that a girl can make a living by her vices, while a boy cannot by his, is an important fact in social degeneration. The fact that 45 per cent. of the girls who appear before the juvenile court come back, as against 20 per cent. of the boys, and that it costs three times as much to give girls reformatory and placing-out care as boys is because it is hard to protect womanhood from man, the hunter for lust or greed. Social conditions which are delaying marriage, and which increase the number of nomad and homeless men, are increasing the sexual stress among men and inclining them toward illicit habits. The abolition of prostitution, that most ancient and deeply-seated of human diseases, is no holiday matter. The only light we have is that it must be done chiefly through *the education of men.* This definitely was the conclusion of the Chicago Commission on Vice, which studied the problem more directly and thoroughly than had been done before in this country. There must be a general campaign to train boys in right ideals and habits, thus reversing the moral atmosphere of future masculine thought. The great work of making marriage and home-making simpler and feasible earlier must be undertaken. The traffic in women must be outlawed and made more dangerous and unprofitable. The relation of vice to the nation's health will be realized so deeply that the male prostitute will stand before the law as the female, and marriage of men infected with loathsome diseases will be prevented through compulsory examination. Compulsory report by physicians and control by boards of health of syphilis and gonococcus infection must come if we are ever to control the Black Plague, as we already hope to the White Plague.

There are further proposals toward cleansing the springs of life. The asexualizing of the feeble-minded and of habitual criminals, especially of those guilty of sexual sins, will probably be legitimized generally, as it is already in a few States. Science will give further suggestions as to the possibility of magnifying the good and minimizing the evil heritages.

Eugenics and the Individual

These are the chief problems of eugenics, but their difficulty is that "each seeks a way to reverse nature." This is especially true of the endeavor to encourage those who are "at the top of society, to forego their ambitions, their pleasures, their love of ease, and seriously and consistently for long generations to undertake the parentage and nurture of more numerous bearers of their heredity." For a number of decades the birth rate has fallen off one per cent. every decade. Economic ease, while it may encourage marriage, does just the opposite of this especial thing that is desired. "This is not," says Dawson, "a generation that idealizes fatherhood and motherhood." It may be that agitation will arouse better men to the gravity of the situation. Sir Francis Galton proposes an eugenic religion, which shall look not merely to personal salvation, but also to the ultimate good of all future human kind. But religion is much a matter of feeling, and this is a realm in which intellect and self-interest control. Will Eugenics be able so to present its truths as to influence the feelings, the religion, and the conduct of men, in the solution of this gravest of problems?

The day is close at hand when it will be

looked on as a disgrace to bring illy-developed, puny children into the world, who even if they survive the first year are bound to remain weaklings, a constant burden and menace. Again, no credit or honor will accrue to the large family with so many children that each is denied not only proper vitality and strength at birth, but also sufficient nourishment, care and training from birth on, for the very reason that the resources are so limited that poverty, hunger, and neglect are inevitable. Will not the parents who with intelligence and a deep sense of their responsibility make the health and vigor of their families stand first rather than their size—the *kind* rather than the *quantity* of children—do infinitely more for the world? Most certainly they will, and it seems not only more sensible but far more commendable to let the size of a family be determined by the parental conditions and resources. The offspring in such families can be given not only their birthright of vitality, but also a share of the available nourishment, care, and education during their dependent period that will be sufficient to enable them to compete successfully in the economic and social struggle for existence and happiness when thrown upon their own endeavors. Such offspring naturally transmit their virility, and thus is built up the strength of a community, a State, or even a nation.

FUNCTIONS OF MOTHERHOOD

BY

AGNES EDWARDS ROTHERY

THE greatest contribution that any woman can make to civilization is to help found a successful home. The family is the unit of the State and the home is the center of all social, economic, and educational good. The successful family is the one that is strongly centralized, and by centralization we mean that happy state of harmony for which the mother is primarily responsible.

We can all recall families in which there are several children, and a father, and a mother; where there are no visible breaks or discords; where everything appears normal—and yet where something is lacking. And that something is essential. While each individual member appears agreeable and interesting, yet the family as a whole is vaguely unsatisfactory. Its members are not *dis*united: they are merely *un*united. They come and go; they are polite to each other; they are apparently fond of each other; and yet, somehow, we have no sense of unity in the household; no recognition of a family life, which, while it belongs to no one member, is dependent upon them all. What is lacking is centralization.

The strongly-centralized family, on the other hand, may not, perhaps, be so agreeable: there may be strong personalities conflicting with each other. And yet, the minute you step over the threshold you feel that here is a home.

What Makes the Difference between Families?

What makes the difference? Why does one household depress us with a faint sense of disintegration, and the other impress us with the definiteness of its home bond? What makes the difference, and who is responsible? Chiefly the mother. Of course, the mother cannot do it alone, but if she knows what she wants she can enlist the others. She can teach the husband and the children to coöperate in making the house a home, and not merely an abiding-place. If she has the right idea clearly before her, the children will see it too, and it will grow to be a part of their beings. There is nothing so tenacious as an idea given us in childhood. And this idea, which the mother is to hold clearly before her, and which the children are to see as naturally as they see the pictures on their nursery walls, is that the true family realizes that there is a family life, which is apart from, and yet a part of, each individual life, and that this family life can only be maintained by being gladly sacrificed for by all, and as gladly enjoyed by all. Wherever this ideal is held, you have a home which is a spiritual lever, and which can lift, as no other lever can lift, its members into nobler planes,—moral, artistic, social, and intellectual. For the home is the source of all life, and contains the germ of all civilization.

Some Ways to Centralize a Family

How can the mother make her house a home? How can she make her boys and girls into acceptable members of society? Centralization is the keynote. It may not be the final destination, but it is one of the most illuminating of the

sign-posts. One of the best ways to centralize your family is to teach it to do things together. Working together is a splendid unifier, and so is playing together. And love is the greatest bond of all. Pure sentimentality is a feeble tool for welding strong metals. You can never nourish a vigorous family life by feeding it upon sweet words and gentle theories. But a fair amount of actual labor for a common end, plenty of fun, and a generous sprinkling of genuine affection,—here you have three strands that can be woven into a bond that no vicissitudes can snap.

The most successful families are the ones in which each child has some definite duty in the daily household routine: not a drudging obligation, but a contribution to the general comfort of the family. It is not so much the actual task that is of value, it is the spirit which it fosters. You may fill lamps with revolt in your soul, if it is merely a horrid chore to be got through with. But you may fill lamps with joy in your heart, if you feel that you, too, are doing something for the home. It is the mother's privilege to present that point of view.

And then for the playing together. There is so little real playing anywhere, nowadays, we reflect rather mournfully. The merry frolic, the old-time picnic or candy-pull, the long winter evening of games and jolly, wholesome amusements,—these are now rare. And it is not only *playing* which has gone out of fashion: it is *the playing together*. To-day, if your little daughter gives a party, she will probably ask in a few of her schoolmates. Father is banished, older sister is dismissed, the baby put to bed, and brother given his *congé*. Mother is tolerated for a short while, but for the most part the young people play together. Such strict segregation of ages and sexes is fatal to true social gayety. The jolly charade party where father and mother joined in, and even the littlest one was given some part, and the oldest one was made to take his share, and the evening ended with a Virginia reel where old and young, boys and girls, romped together—you don't get invited to many such parties nowadays. And yet it is the playing together as well as the working together that knits the tie of sympathy that the years strengthen and do not break.

Examples of Unity in Family Life

I know a family that used to have story contests. They would all take a certain picture or a certain plot, and write about it. And finally, after much preparation and the greatest secrecy, the grand day would come. And then there were judges and a reader; and prizes were awarded, and amid the wildest excitement every one tried to guess who had written what. The father and mother and all the children joined in these contests, and the son at college sent his story home. The mother used to say that she was sure that working on the same thing at the same time brought the family into a closer sympathy than anything else could have done. Why, read Louisa M. Alcott's "Little Women," and see how even to-day you thrill at that story of a simple family, who were not extraordinarily clever, nor phenomenally good, nor romantically situated. Just an ordinary, happy, loving family; with griefs and joys just like the griefs and joys of all the world, and yet see how children turn to that book and love every word in it. Don't you think that the girl who loves to read of the good times in the March household would love to have similar good times in her own home? Don't you think she would respond to your guidance if you showed her the way?

Selfishness Has No Place in Such a Home

And always remember that the centralized home is not a selfish place. Do not train your children to seize every good thing and drag it to the domestic hearth, as a squirrel runs with a nut to a secret hiding-place. It must be a centre of giving as well as of receiving. It must be a radiant place, with its rays growing longer and brighter every year. If you teach your children to be "proud of their home" and to "stand by each other," and all the other stanch old doctrines, you may find that you have made very selfish little creatures out of them, just as intolerant of other homes as a selfish person is intolerant of other people. The true home is closed to all things that would harm it, but it is open to all that need it. Falseness and vulgarity and talebearing, in books and pictures and people, are to be barred out. But forlornness and dinginess and sadness—these are to be welcomed and relieved. Do not fear that you will be overwhelmed: you will only gain in strength. If you cannot give of your fullness, you have nothing but well-bolstered negation, and no home at all.

It is the mother who determines all this policy. It is the mother who must stimulate interest, and keep up flagging spirits. She must apportion the work and enter into the play, and she must bring the father along with her, for fathers are strangely dependent upon mothers for their cue, and only with the father can we have a truly normal home.

It is a difficult profession,—this profession of

motherhood. In the animal kingdom, as the offspring grow older, the parents withdraw their ministrations, but in the human family the older the children grow, the more diplomacy and enthusiasm are needed by the ruling spirits. When the boys begin to get unruly and the girls begin to get silly—as the husband gets less ready to make an effort and more willing to sit quietly by the fire in the evening—then it is that many a family drifts apart. But the mother can have no holiday. She must always be on duty. The only difference is that as the children grow older, she must pretend that it is *they* who are managing affairs.

The Successful Mother IMpels Rather than PROpels

There is only one way to centralize a family and to keep it centralized. That is not by *pro*pelling it, but by *im*pelling it. The successful mother does not force a child to do so and so, but makes the child force himself to do so and so. This mother is no distant judge, no stern lawgiver, no arbitrary commander. She is a sympathetic friend, a wise councillor, a loving guide. The daughter does not conceal her girlish foolishness from her, and so is saved from many a more serious adventure. The boy does not glean his knowledge of the world from the street, but from a clear source unpolluted.

You cannot centralize a family by any force but magnetic force. And magnetic force is based not upon stern reason and cold justice, but upon love, coöperation, and all the quick, warm qualities of the heart and the intuition. You cannot bring your boys and girls up through the glowing years of youth by strict, impersonal theory. You must appeal to their emotions. You must enlist their sympathies. You must give their boisterous bodies room to romp in, and their fervid imaginations and eager desires room to grow in. You will never get near enough to your child to know what he really wants if you are not his friend. How can you advise your boy what college to go to if you do not know that he cherishes a secret fondness for mechanics, or that he covertly longs to be a forester? You cannot learn these things in a minute. Gaining a child's friendship is a slow process, and many a parent never succeeds in doing it.

You must all be friends in the successful home. You must all be held together by a family bond, and the mother must tie that bond. She must be the magnetic centre, and teach the others how to bring all good things into the family, and how to let all good things radiate from it. You must work together and play together. And then you will have a successful home, from which real men and real women will come well equipped to take their share and do their part in the larger family of the world.

THE FUNCTIONS OF FATHERHOOD

BY

WILLIAM BYRON FORBUSH

"WHAT'S the matter with father?"

The matter with father is that he is an artful dodger. As a neighbor recently confessed to me, "When it comes to parental discipline, I either skid or skidoo." Father is a consulting rather than a practicing parent. He is like that curious South American lizard which, when pursued, drops its tail in the pathway to interest the pursuer, while it itself escapes. Father makes it his conscientious business to give his family money and everything that they need—except himself. "I never had a father," said a friend to me. "Did he die when you were quite young?" I asked with sympathy. "Oh, he isn't dead; he's a Shriner."

The other day I received a letter from a boy of thirteen, in which I read the following passage: "What can I do to get my father interested in baseball? There doesn't seem to be anything we can talk about when we are together, and you can imagine that we are not very good friends." A few days later we had a letter from a mother who asked us this question: "Confidentially, is there any way to make a father feel that he has a responsibility in rearing his sons? The father in this home is a man of sterling character and high ideals, and a man to be proud of. The only thing is that his responsibility as treasurer of the hospital and chairman of the greens committee at the golf club has in the past eight years been paramount, and there has been no time for home life."

You can picture these situations. Two reputable men are fulfilling every responsibility in life except their principal one. One of them at

least is trying to serve humanity, and yet he has a boy at home who is saying, "Do you want to serve humanity? I am it." We get a pleasant glimpse of a man who for eight years has never failed to win public approbation by keeping the sward smooth on the putting greens of his native town, but at the tremendous price of leaving his children half-orphans.

A Father Is Really an Admirable Person to Be a Parent

It takes two people to bring up a child. Reluctant though he may be to confess it, a father is really an admirable person to be a parent. He is more likely than the mother to be sympathetic with a pungent course of hygiene and exercise for his growing children; he ought to be more ingenious in arranging the playroom and making home-wrought occupations; he always has the freshness of approach of one who is not around all the time, and he is supposed to have that larger outlook which is so essential to the broadening lives of oncoming children. If a father would put his mind on his parental task, he could be just as successful as he is at what he calls his "business." It may not earn him such a largely attended funeral, but it will be better for him after his funeral is over. For if it is right for a father to have a son, his son has a right to have him.

In these days when we are seeing, as never before, the shrinkage of fatherhood and the expansion of motherhood, it may be worth while to name some special reasons why fatherhood should not become obsolete. If any man is reading these words whose mind is open to the conviction that it may be his privilege to be something more than Santa Claus to his household, I shall be glad. There are several things, besides food and clothes, which a child has a right to from his father.

"O, Lord, Send Me a Paw What Ain't Got So Much Biz as He Can't Find a Teeny, Weeny Time When He Can Play with Me"

He has a right to have his father play with him. Is this too much to ask? You love your child enough to want to be friends with him, let us say. To be friends with any one it is necessary that we do some things in companionship with him. Now, your child cannot share what you are doing, so you must share what he is doing. And what is he doing? Mostly, playing. That is what he is a child for. If he wasn't doing that, he wouldn't be a child. For a short time it may be possible for a father to live on a pedestal, from which he descends, like Jehovah in the Old Testament, with a dictum or a discipline, as he feels disposed. But a perch is at best uncomfortable, and you cannot bring up a child entirely on what you tell him about how good you were when you were a boy. Some very good men have failed at just this point. The editor of a popular magazine for mothers is so touchy that his son can't live with him, and has to be sent away to school, and the child of the editor of one of our largest religious weeklies was a prodigal. But an old Irishman, chief of police in Philadelphia, left a widower with a large family, once told a company of fathers that he had never known a child to go wrong in a home where the father played with his children for an hour after supper, and he added, with justifiable satisfaction, "And I've tried it meself." To play with a child doesn't mean to use him as a plaything, and then, when you have tired him out, spank him because he is cross. It means to get down where he is, to do what is so much harder than to *be* a child, namely, to *become* one. In W. H. Mansfield's poem a small boy complained that his father did everything for him except this; and he uttered this sensible protest:

> "But I just can't help thinking, sir, what great sport 'twould be
> If paw'd been born a little boy, so he could play with me."

"Do you know your child's dreams?" was a question that flashed up at me from some ephemeral publication the other day. How many of us even know that our child has dreams? Yet his dreams are the seeds of his life's purposes, and we, excellent Pharisees that we are, have no right to thank God that we are not as other men are if our children do not trust us enough to tell them. But they cannot trust us unless they know us.

The Father as a Teacher—Some of the Things He Ought to Teach

Another thing a child has a right to ask from his father is that he should teach him. Even when we are driven to our last cowardly defense, "My wife brings up my children to my satisfaction," we have to acknowledge that there are some things which a woman cannot well teach her sons. One of these is how to work. The problem of work for children in this country is to-day more important than the problem of play. I sympathize heartily with the agitations against child-labor and in behalf of playgrounds, but I have little patience with the idea that because a child ought not to be employed publicly and for

wages until he is through school, therefore he is to have no chance to learn through experience that work is more fun than play, and that because he has a playground he has no need of a workshop. Rufus Stanley, of Elmira, found, in his original Omega Work Club for Boys, that his lads stuck to their garden-patches and chicken-coops amid the distractions of the Fourth of July and the Columbus Day parade. But how can a mother teach a sizable boy to work? He doesn't love sewing and dishwashing, and she doesn't know the difference between a spokeshave and a safety-razor. "Wait till father comes home, and *we'll* fix it for you," said a boy of six proudly to his mother, in a home where father had discovered that his son had other uses for his hands than to keep them clean.

Teaching the Junior Partner How to Spend Money

A father ought to teach his boy how to spend money. It is a difficult art, as the man himself knows. The most foolish man in this country is the money-maker who endows his immature children with a license to be spendthrifts. Next to him in folly is the man in comfortable circumstances who continues to give his high-school son the same fifty-cent allowance that he received when he was a child, because "he doesn't know the value of money." The former will probably soon foist upon the public a son of the type euphemistically known as "chicken-snatchers," and the latter, subject to semi-weekly hold-ups from his impoverished offspring, will wonder vaguely why he cannot think of a financial arrangement with them which is as fair and businesslike as that which he has with his other junior partners. For that is what growing children are—our junior partners—and when a boy is old enough to have a fancy in neckties he is old enough to have a budget and buy all his own clothes.

When Wings Seem So Much Better than Nests

One more thing that a father ought to teach his sons is an intelligent and chivalrous attitude toward womanhood. Aside from the proper reticence of mothers, every man knows that here is a whole realm of feeling into which no woman can enter, and which only a man ought to try to interpret. One attitude of mind common to women, for example, is that immorality is so physically perilous and so morally repugnant that a boy needs only information to this effect to keep him pure. Only the father can realize that it is hard to scare a boy by any peril and that his curiosity is somewhat likely to conquer his fears, and that the only way to be sure a boy will do right will be because he likes to. Yet when a father asks himself what one experience he would prefer that his son should omit, he can hardly shirk his own share in protecting him from it. And in general, when the time comes that youth rushes on like an avalanche and wings seem so much better than nests, and a youngster hears his mother's advice and follows his father's example, a father can hardly afford to sidestep. In any town that is big enough to have chop-suey there is a special time and place for fathers.

Fathers Should Learn Something about Child-Life in General and Their Own Children in Particular

What, then, must a father do to be saved from the hell of unfulfilled responsibility? He must know something about children in general. The extent of ignorance concerning the most usual facts of childhood revealed in my correspondence with some parents is such that if a man were as limited in his business, he could not hold a position as errand-boy. Not only has a father never read a book about child-life, but he seems to have a complete loss of memory about himself before he was twenty-one. Fathers complain that their children lie and steal and make unworthy companionships, forgetting that every boy who ever lived that amounted to anything did every one of these things. They give their children allowances of five cents a week and then hound them if they visit the candy store or divert their Sunday-school penny to secular uses. They lose their tempers with their children, and then want to know why they are not more respectful. They try to "lick" their growing boys, and then want to know why they stay out nights. They do everything that is stupid, and yet always complain of their offspring and never of themselves. For years the books on child-raising have been just as plentiful, just as explicit, and just as cheap as those on stock-raising or on business management. Why don't fathers get intelligent upon their great human problem?

Fathers ought to know their own children particularly. Dean Le Baron R. Briggs, of Harvard, has said that most of the prodigal sons who get into trouble at the university are spoiled by their fathers before they come. Would there be private military academies, practically polite reformatories, all over this country if fathers everywhere knew more about their sons? Would

you care to be a father who didn't understand his son when he was with him and couldn't trust him when he was away? It may be a man is not so much to blame if he doesn't know much about his babies; he is not called on to nurse them. But he really should give as much attention to knowing what they do and think and dream when they are older as to several other things which somebody else can do just as well.

Father Should Be Put through a Course of Study

I know our excuse: "We haven't time." This is the point at which industry most invades our homes, not by child labor, but by stealing the fathers. It would seem to be as hard for a successful man to be a real father as it is for him to enter into the kingdom of heaven. Perhaps that is his way into the kingdom. Of course, our children rather take us at a disadvantage. A healthy boy returned from school is just ready for excitement at that end of the day when father has had all the excitement he wants. When father is ready to be coddled, son is ready to be amused. It is natural for father to encourage son to take his amusement in the easiest way—outside the house if possible. It is natural for him to feel that his own comfort and the child's morals require absent treatment.

Mother is not always tactful about approaching father with the children. She is occasionally tired herself when night comes. As one woman says, "We fling the desperate boy at the very head of the bewildered father and then have turns of bitter disappointment because the remedies that are applied are so much cruder than our own." You see, father is like a captain who has not served in the ranks, and we expect efficiency of him when he has not worked up to deserve it.

The solution seems to be here. Really a wife must train her husband to be a father. Every bride finds out that her husband is actually her first child, and must be treated as such. Father as a man is not so bad; he is a boy at heart. But motherhood comes by instinct, while fatherhood requires a course of study. Take father early. Let him into the nursery. Insist that he admire his first-born, and tell him why he is beautiful. Break it to him easily that he is God to his youngsters. Tell him that the Bible is full of the duty of fathers, but never mentions that mothers have any duties. Never let him open his mouth in discipline until he is sure he has put himself in his child's place. Get the children to help father break loose from his sedentary sins, his tired solemnities, his awful omniscience. Demand his best.

Good, Bad, and Runaway Fathers

"Fathers' Clubs," says a recent writer, "are the latest thing to come out of the West. This sounds like a side issue of feminism, but it is not. The women have nothing to do with it, and the feminists are already thrown into a brown study and are wondering what is to come of it. It is mere propaganda for a movement for the improvement of father begun in 1913 in Council Bluffs, Ia., and now that the United States Bureau of Education has taken it up, something will soon be doing all over the country. All fathers are then to be divided into three classes: good fathers, bad fathers, and runaway fathers. The question to be put is a leading one: 'What kind of a father are you?' The question is going to be asked."

The Community Boys' Work Division of the Young Men's Christian Association, Tulsa, Okla., has circulated a pamphlet by Blake W. Godfrey that we herewith reprint entire.

The "Prodigal Father"

A certain man had two sons, and the younger of them said to his father: "Father, give me the portion of thy time, and thy attention, and thy companionship, and thy counsel and guidance which falleth to me." And he divided unto them his living in that he paid the boy's bills, and sent him to a select preparatory school, and to dancing schools, and to college; and tried to believe that he was doing his full duty . . .

And not many days after, the father gathered all his interests and aspirations and ambitions and took his journey into a far country, into a land of stocks and bonds and securities, and other things that do not interest a boy, and there he wasted his precious opportunities of being a chum to his own son. And when he had spent the very best of his life and had gained money, but had failed to find satisfaction, there arose a mighty famine in his heart, and he began to be in want of sympathy and real companionship. And he went and joined himself to one of the clubs of that country, and they elected him chairman of the house committee, and president of the club, and sent him to the legislature. And he fain would have satisfied himself with the husks that other men did eat, and no man gave unto him any real friendship.

But when he came to himself he said:

"How many men of my acquaintance have boys whom they understand and who understand them, who talk about their boys and associate with

their boys, and seem perfectly happy in the comradeship of their sons, and I perish with heart-hunger? I will arise and go to my son and say unto him: 'Son, I have sinned against heaven and in thy sight, and am no more worthy to be called thy father. Make me as one of thine acquaintances.'"

And he arose and came to his son. But while he was yet afar off his son saw him and was moved with astonishment, and instead of running and falling on his neck, he drew back and was ill at ease. And the father said unto him: "Son, I have sinned against heaven and in thy sight. I have not done my duty by thee, and I am not worthy to be called thy father. Forgive me now and let me be thy chum."

But the son said: "Not so. I wish it were possible, but it is too late. There was a time when I wanted to know things, when I wanted companionship and advice and counsel, but you were too busy. I got the information, and I got the companionship, but I got the wrong kind, and now, alas! I am wrecked in soul and body, and there is nothing you can do for me."

THE CONSERVATION OF THE MODERN HOME

BY

REV. HENRY F. COPE

OFTEN things that are taken for granted fail by default. We are so wholly agreed on the theory that the home is the foundation of our civilization, the most important part of the social structure, that we give it no further consideration. We live as though foundations were to be furnished by nature, or by accident, while we give our whole attention to adorning the superstructure.

Homes Are Places to Grow People in

The conservation of the home must be based on a definite social conscience for character. The purpose of developing spiritual lives must dominate all our thinking on the home. To-day, under the pressure of the life of things, we blush to talk of the spiritual, we fear that it sounds too unsophisticated to talk of character. We blush for our ideals, but we have no hesitancy in boasting of things, possessions, and riches. We apologize for ideals and for objects of beauty and love, while we laud the practical. So we have treated disdainfully the ideals of the home. We have allowed the kitchen to become more important than character, the chairs than children; and we smile in pity on those who speak of the joy of growing young lives. Our cheap cynicism turns to a joke the realities of love. We look for homes (*houses,* that is), with all the latest mechanical devices. We have forgotten that homes exist primarily for purposes that no mechanism can accomplish. They do not exist to serve meals; they are more than hotels. They are educational institutions, designed to grow the souls of children into manhood and womanhood.

All our improvements in child-welfare and home-betterment turn in a vicious circle unless we can see that every attempt to increase domestic efficiency, child-health, and house-comforts is but a means to an end; conditions are but the tools of character. We would have better homes for the sake of finer humanity. It is folly to perfect a farm except for the betterment of crops. It is folly to talk about improving the home except for the conservation and development of human values. Homes are places to grow people in. The measure of their worth, their real place in society, depends on the kind of people they give to society.

How Have Modern Economic Changes Affected the American Home?

Our interest in the home to-day is not ultimately an economic one, not in the question of food, clothing, lodging, and physical comforts; it is in these only as they serve other and higher ends. But it is necessary to stop long enough at the threshold to ask, what are the effects of modern economic changes on the ultimate purposes of our homes? In answering that question we are likely to uncover the dangers that threaten the very life of the home. No one can question that important changes have come about in the character of our homes, that public opinion has changed in its conceptions of the home and that certain modern methods of living have robbed thousands of families of the peculiar advantages and benefits which home and home-life conferred on our fathers. The greatest foe of the family is not the divorce evil, because the real danger in divorce seldom threatens

real families; it concerns usually only those who have no children, with whom marriage is but a temporary convenience and to whom normal home-life would be impossible without a change of character. There are other no less potent evils threatening the home. First, those conditions of industry which seem to compel mothers to neglect their natural duties and to turn to remunerative livelihoods; the factory despoiling the home because either the father is not living or has deserted the home or because his wages are insufficient to pay even living expenses. Again, the conditions of industry tend in an appalling number of instances to rob the home altogether of the father. He rushes off to work before the family awakens; he returns late and is so exhausted that he can give no thought to his home, too weary to perform the pleasant tasks of home-improvement, of work in the garden or about the rooms; and altogether too weary to endure even the chatter of the children or to have any part of his real self to give to the life of the home.

The Packed Publicity of the Apartment Prejudicial to Home-Life

Conditions of industry and of city living also account for the tendency to rob the home of its normal physical conditions. It is hard to think of a real home stored in diminutive pigeonholes. Modern apartment living is not home living; it is the hiring of sleeping-quarters, desirable on account of their compactness; it tends to about the same thing as taking a time contract on a Pullman berth and calling that home. The quarters are so crowded that not only is it necessary to use folding Christmas-trees, but the natural, free intercourse of the family is crowded out; there is no room to play, no place for reading-room and music and hearth-side; and so families fold up their affections, too. Then real home-life is impossible in the packed publicity of the apartment. What family-life is there when you can look across the air-shaft into your neighbor's dinner-plate; when the odor of boiled cabbage floats up from the family in the pigeonhole below, and rag-time from above shakes the dishes on your walls? What sort of associations and memories can children hold of home when it has meant, not the cottage with roses twining about the door and the garden of play and happy toil in the back, with "mother's room" and "my room," but an immense filing-case in which they had one partition?

Somehow we must secure to every child his rights to play-space, to grass and flowers and some touch with real nature. The city must not rob the child of life itself. We must not allow our mad rush for things convenient to blind us to the greater importance of things beautiful, lovely, character-determining. Life is larger than making a living. To love some things of beauty is better than to possess all things. Pity the children born into a world of things; all their lives trained to think in terms of making a few cents or a million dollars; robbed of joy, play, imagination, and any hope beyond the slavery of the money-mill; born into an apartment—a thing of brick and marble only.

The Newspaper Is Often a Capital Offender against the Best Ideals of Home-Life

The conservation of the home to-day demands a new safeguarding of the laying of its foundations, a new realization of the dignity and importance of foundations. Somehow we must shake up the apathetic public opinion that treats home-founding as either a joke or a romantic accident. When it is either it is just as likely to become a tragedy or a catastrophe. Our first educational duty lies in the education of public opinion to a new point of view regarding the home, to a conscience that will be deeply offended by levity and coarse jokes on marriage and home-making, to a pride of home that will count it an insult and affront to our cherished ideals when the callow cartoonist makes motherhood ridiculous and the affections of the home become the butt of a buffoon.

One of the worst offenders against the life of the home is frequently the daily newspaper. Its standards are those of the street; it is made for consumption on street-cars and crowded trains. It has a habit of tearing down all reserves and, compiled largely by young men who affect a cynical indifference to everything that might be labelled ideal, it takes the world in terms of its lowest and least desirable factors. But it finds its way into every home; it is the child's most potent text-book. Everybody reads some of it; the least one in the home can comprehend its crude, often infantile drawings, its alleged funny pictures. The paper is at liberty to print what it will within certain civil restrictions; but we are not obliged to feed our children on what will certainly pervert their appetites, foster base conceptions of the home, and cultivate the habit of taking parenthood and home-living as a ridiculous joke. Often even the "family paper" is like the "family entrance" to a saloon, an open door into the very worst aspects of life. It results in the child's mental picture of the whole world as a round of scandal and divorce, of the fields of the world as one great moral garbage-heap,

of the abnormal as the normal. The matter is much more serious than we realize. The newspaper is the child's interpreter of life. What life will be to him later depends on what it now means to him. Surely the home owes it to itself, for its own preservation, to see to it that mental food so abnormal, so destructive of the tastes, appetites, and moral powers of life, is kept out of the child's mental dietary.

Children's Ideals and How We May Help to Feed Them

But conservation is more than prohibition; it is cultivation. The child mind cannot be left destitute of mental food. We must do more than stop the abnormal and often hideous caricature of life in the daily paper; we must substitute in liberal, rich quantities the normal pictures of life. Since the child craves ideals, we have the opportunity of offering ideal material.

We need a careful guarding of the whole range of mental food presented, more careful than that maintained at the kitchen-door; a serious study to discover available, suitable material in papers and periodicals, and a coöperative effort to make such material generally known. We need not only lists of book-classics for children's reading, but more current material wisely selected and more information widely disseminated on such material.

Other agencies must aid in educating public opinion on the home and in training youth for home-making. The church has a splendid opportunity to quicken new ideals of home-life if it will cease dealing with a dead past and will bring religion to the living present of our hearths and homes; if it will cease to spend in singing about a "home over there" energy that ought to be applied to making truly heavenly homes here. It will not only prepare for another world, it will prepare for this one, where men will live together on religious terms. It will set itself definitely to the task of training future homemakers not only by sermons in the pulpit but by careful courses given in classes.

The Power of the Home Atmosphere in Determining Youthful Ideals

But to the home itself we must look for the principal work of conservation. There is only one way in which life comes into being, that is through life; and there is only one way in which the spirit of the true family and home is born—through homes and families. Here, in the home group, through its daily living, children are learning what home and family mean. No formal lessons can ever be so effective as these informal ones presented in every day's experiences. No matter how beautifully the parents may talk about ideals, the *real* is the lesson the child first learns. The disorderly, selfish, unsocial home thunders so loud the child can hear no words uttered in it. The immoral home, the one which seeks to cheat life by taking its pleasures and evading the price of pain and service, becomes a teacher and guide in immorality. The home where all learn life's great lessons of the joy of service and the blessedness of patience and kindness, will be the parent of other homes where love reigns and lives are grown into beauty.

The home of to-day is the parent of the homes of to-morrow. The family life of to-day is the school, the training agency for all family living in the future. Just as young people once learned all domestic duties at home so it is still true that they learn all domestic interpretations and ideals in what they actually see and experience in their own homes. This influence of which we are often unconscious, this pedagogical power of custom and atmosphere, is the most potent of all the agencies working to mould child life and determine conduct in the future. A good home to-day does more than aught beside to make all homes good to-morrow.

A Good Home Is the Result of Careful Thought, Not of Accident

But homes are not good by accident. The good home is the one which is ordered and conducted for the purposes of the highest good, the one in which parents have carefully thought out an answer to the question, What is the highest, greatest good to be realized through a home? They have answered it in terms of character; they have seen money, furniture, social pleasures and advancement, dress and table, all as tools, agencies, and means for the ends of character. They have thought of their own pleasures as to be found, not in present indulgence, but in future profits and joys; in the growth of lives to their fulness and to their efficiency. Therefore they order all the life of the home for the conservation and development of its permanent elements. They recognize the transitory character of all things; the inevitable nature of all tools, such as money, materials of life, to wear out; and they use these to serve the purpose of the permanent values—the values of life, of character. The home conserves the eternal, the imperishable; it exists for souls; it counts its gains in character and counts all else as refuse that it may win this; lives loving the truth, hating a lie, attuned to God and the ideal; taking life in terms of a chance to love and serve.

THE PLACE OF FORMAL INSTRUCTION IN RELIGIOUS AND MORAL EDUCATION IN THE HOME

BY

G. STANLEY HALL

FROM a biological standpoint, good parenthood, in all that that noble and pregnant term involves, is the supreme end of man. This means that that man and woman is the best who produces and rears to fullest bodily, mental, and moral maturity the most and the best children. No other service equals this. God's covenant with Abraham, that if he did His will his children should be as the stars, only expresses a universal law of life. Nature's one penalty for every kind of violation of the fundamental laws of our being is progressive extinction. No matter what the sin, its punishment is some form of lessened vitality, perversion, or arrest. The ultimate test of every question of personal or social virtue is its effect on the child in our midst, and yet more its effect on the unborn, with the fate of countless generations of whom every fruitful life is freighted. All the culture and institutions of every race are sound and abiding, or false and transient, according as they favor or hinder the transmission of the sacred torch of life undimmed to posterity. This is the standpoint of the new movement in eugenics or practical heredity, a factor in every life far more important than environment and education combined. In this large sense let us not forget that paternity is as much the culmination of man's education as maternity is of woman's, and Sir Francis Galton's proposed certification and endowment of those fittest for each is only recognizing the fact that these are exactly the diplomas and these the highest degrees *summa cum laude,* which nature has always conferred on those who finish their course in her great university.

The Problem Stated—The Author Offers His Program

How do we stand in the light of this great and awful bionomic law that makes our very life its sport? Statistics show that among both the oldest American stirps, and also among the educated classes, marriages, in both sexes, are later and fewer, that children of those who do marry are less numerous and less often nursed, and more often and earlier committed to the care of nurses, governesses, teachers, and that all four of these evils have grown steadily for at least two generations, while among the children of the more prolific lower classes crime, as measured by the age of first commitment, is every decade more precocious, both in city and country, and also that the growing diffusion of school-learning does not bring proportionate immunity from either vice or crime, although it does give greater ability to conceal both. Other studies, nearly half a score in number, made in various parts of the country and on various classes, show a rapidly progressive ignorance of the Bible, despite home, Church, and Sunday-school; so that for an increasing percentage of our high-school pupils its best passages and most salient incidents are so unknown that the commonest literary allusions to its contents are not understood. Ancient German and Greek religions are often better known. The problems are too vast and vital to be solved by any quick devices, by resolutions, committees, or addresses. In view of the magnitude of the danger, I feel profoundly that my, or perhaps any one's, program of how to meet it will seem either radical or impractical, or both; but I could not be an optimist if I did not myself believe in its soundness and efficiency.

Practical Courses in Morals for High School and College

1. First of all, I would have two concrete courses in morals worked out,—one for high school and one for early college classes,—detailed and practical, rather than abstract and theoretical. This work should begin in personal hygiene and regimen, and comprise diet, exercise, body-keeping and training, and should enlist the strong and legitimate passion of every young man to be strong and every girl to be beautiful and attractive. It should include dress, adornment, etiquette, and manners; should treat the "seven deadly sins" of the Roman Catholic Church—pride, avarice, luxury, envy, anger, appetite, sloth; and the cardinal virtues—wisdom, courage, temperance, justice, faith, hope, and love,—should involve something of temperament, habit, character, livelihood, citizenship, example, self-respect and control, unselfishness and honesty, patriotism, companionship and friendship, obedience, usefulness, fun, ambition, methods of

study, duties to self and to relations and acquaintances, to State and Church, and should culminate in a few wholesome principles concerning purity, marriage, home-making, fatherhood and motherhood, and duties to the unborn. These latter topics should be taught in a condensed way by hints, and without self-consciousness. All should be copiously illustrated by examples drawn from history, literature, and life, and while I would not have the religious motives omitted, the chief appeal should be to prudence of a common-sense kind, and to the sentiment of honor, meant to be the chief advocate of the interests of the race in the soul of the individual. We still lack a manual or curriculum of this kind, but experience has proven the practicability of it, and it is sure to come.

Early Childhood Is What Motherhood Makes It

2. For some children the mother is literally in the place of God, and all the sentiments that underlie both virtue and religion—viz., helplessness, dependence, reverence, devotion, loyalty, gratitude, love, service—must in the child first be directed to her; and only later are they transferred to deity, nature, and society. Every failure on her part to supply food, care, love, authority, or to evoke any of the sentiments, involves defect in the child's moral and religious nature. Hence the mother who does most for herself does most for her child. So subtle is this early rapport that nothing in her soul or body fails to register its effect on the body and soul of the infant, who knows no other god but its mother. For her, therefore, religious and moral nurture means not only to crave motherhood for her own good, but to want the whole of it—pain, joy, and all. The more we know of early childhood, the clearer we see that it is what motherhood makes it; that motherhood is therefore the most creative and divine thing in the world. Formal instruction avails little without this work of preformation to prepare the soil. Every kind and degree of maternal ministration of this kind increases receptivity for teaching when its time comes.

Good Tales, Well Told—Not Twaddle—Are the Natural Soul-Food of Children

3. Formal moral and religious instruction at home should, of course, begin with stories, very simple, brief, and oft-repeated at first, and rapidly increasing in number, kind, and complexity, as the child's intelligence expands. Stories are the oldest form of transmitted culture, and the most formative. All should have a moral more and more disguised and implicit as the child advances in years, but the moral should be ever-present for sentiments, will, or both. I suspect and challenge the word "formal" in my topic if it involves, as it does with too many pedagogues, anything methodic. It should at first be as free as possible from every element of didacticism, systematic sequence, or the drill-factors of the precisian. Form should be utterly subordinated to content, and the tales should be of the greatest possible number and variety. Young children need elemental story-roots picturing all the elemental good and evil in the world. All these—of which the kindergarten has a very precious kit, though far too few, too elaborated and selected from too narrow a range—the child needs, and for these its moral appetite is voracious. Every mother should be a story-teller, and her repertory should be large, well-chosen, and ever replenished, and the father should take his turn. What else was the twilight hour, the fireplace, where that still survives, made for? Tales are the natural soul-food of children, their native breath and vital air; but our children are too often either story-starved or charged with ill-chosen or ill-adapted twaddle tales. Good tales, well told, preform the moral choices of adult life aright. Many Bible stories are among the best, but there are not enough, and there are not enough of them adapted to any age, so we should go outside, and draw on other sources. Here our need is a canon of well-chosen ones from a very wide field, cast into the right form for each age.

Teach the Children to Admire the Visible Things That Declare the Glory of God

4. The religion of nature should not be omitted in the home. Everything has been worshiped by primitive man, and here, too, the child tends to repeat the history of the race, Moon, sun, stars, the boundless sky and its great void, wind, stars, lightning, cloud, shadow, sea, mountains, fire, trees, flowers, animals, and lastly, man himself, the crown and epitome of all—all these have been supreme objects of worship somewhere and at some time. The vestiges of these old nature-religions are many and potent in the childish heart and soul, and all need some development; for how shall the soul adore the unseen till it has first felt the power of the visible things that declare the glory of God? What kind of a father is he who has never taken his children on a walk in the country, where they could be at least exposed to these influences? What more hallowed way of spending Sunday afternoon in every season? And in what en-

vironment does parenthood stand forth in more dignity and majesty than on such a background of nature, the mighty parent of us all?

A Plea for Some of the Old-Time Home Influences

5. As to prayers at the mother-knee, in the family, grace at table, Bible reading and memorizing, these are just as precious home influences as they ever were, or perhaps as any one has ever claimed them to be; but they are all rapidly declining, even in Christian homes. They ought to be maintained for their influence on the children, even if there were no other reason. This aspect of the decadence of the home is to me peculiarly pathetic. Must this daily consecration of the household to heaven lapse to a mere vanishing remainder? Is a psychologist or pedagogue old-fashioned to plead for this, when even the clergy say so little for it? Many can at least have sacred songs and hymns in the home on fit occasions, and these sink deep and bear rich fruitage later.

Life More Precious than Dogma—Do Not Wilt the Child's Moral Nature

6. If formal instruction means catechism of either the Westminster or more modern and trivialized form, I cannot plead for it, if for no other reason than that there are better uses of the scanty time, and dogma is everywhere giving way to life. Moral and religious training for children is, in the home, essentially informal, and non-examinable. It is seed cast on the waters, which will never again be seen as seed, but only as the harvest of later years.

Finally, and above all, instruction is the atmosphere of the home. The child's intellect is very small and feeble, but there is nothing in the domestic environment to which its soul is not responsive. Every cloud in the heaven of the parents' love for each other, every moment of suspicion, every word of censure, every act of indifference, wilts the child's moral nature. The home must be first, and not second to business or to society. It must be happy, for young souls expand and grow only where quiet joy reigns. It must be pervaded by a high sense of duty, which is best imparted, not by conscious and methodic inculcations, but by the infection of example. There must be high ideals and standards in all matters, order, system, regularity, and therefore there must be discipline and no overindulgence. The rod must not be absolutely impossible, but the requirements must not be fitful or changeable.

Happily, we live in a day of rapidly increasing knowledge of children, and the more we know of them, the more they are desired, and the more clearly it is seen that their bodies and souls are worthier than anything else in the world of love, reverence, and service, and that nothing supplies parents with such potent motives to become and to do the best they can as the desire to be the better able to bring their children to the fullest possible maturity of all their powers.

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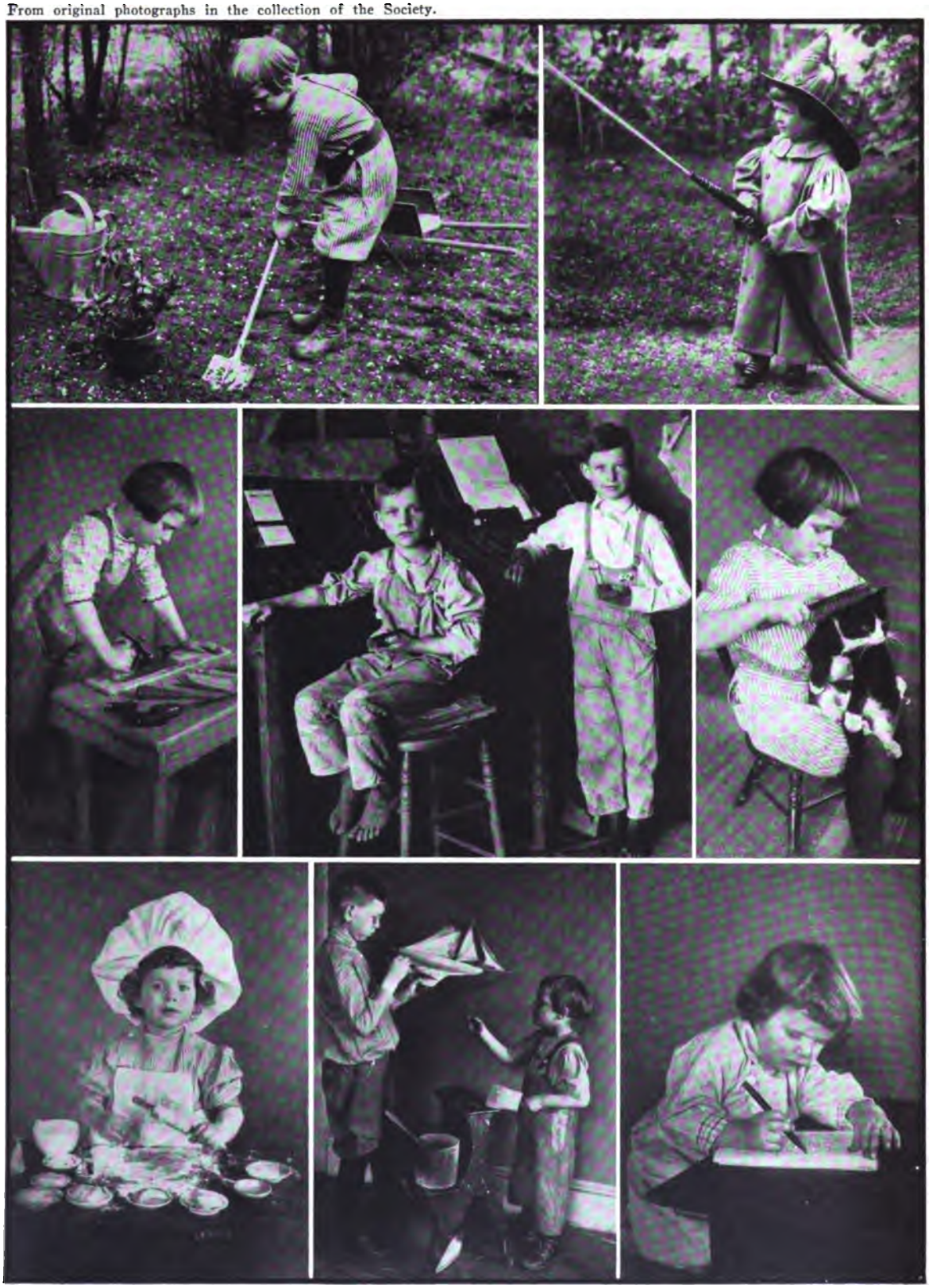

PLEASANT PHASES OF CHILD LABOR

2. House Equipment

MOTHER'S ROOM

BY

CHRISTINE TERHUNE HERRICK

THE mother's room is the magnetic centre of the house. Every member of the family feels almost as much proprietorship in it as the owner herself. Considering this, the mother must insist for the sake of others as well as on her own account that the room be large, airy and comfortable in every respect. In crowded city conditions a spacious apartment is not always possible, but whatever else the rest of the household may have to put up with the biggest and best chamber should be assigned to the mother. She will probably protest against it, bless her heart! and declare that the young lady daughter or the studious school-boy ought to have it; but her objections should be unheeded. If she still holds firm, the crowning argument with a mother must be brought forward—that everybody else in the house will get the good of the room and that it is only common sense to select one which has as much sunshine and space as can be secured.

A Fireplace Should Be a Part of the Ideal Mother's Room

The ideal mother's room has a fireplace. Stoves, radiators, and registers have banished open fires from many homes, but there are still houses in which a fireplace or a Franklin stove could be achieved if one would take the trouble. Nothing is better for ventilation than a blaze on the hearth; nothing is more potent aid to continued health than a little fire in the bedroom night and morning. It need not be an expensive luxury, but the sight of the burning sticks, the crackle of the flames, the home comfort which is symbolized by the lighted hearth, is worth more than money. On the ground of sentiment alone, it is beyond price.

"Your mother could have all that old part of the house pulled down and a fine new one put up for the cash she is spending in having the present building done over," said a contractor one day in discussing some alterations to be made in a family homestead. "My mother would not give up the fireplace in her room, where she has toasted all her babies' toes at bedtime, for the handsomest new house in the land!" was the quick response. The memory of those twilight hours by the fire in mother's room lingers with the children to their life's end and is a protection against evil, as the warming of the baby feet was a preventive of cold and illness.

Just a Word about Ventilation

While the fireplace is much for the cheer of the room, more is needed. Sunshine for at least part of the day is almost an essential. Good ventilation should be supplied and by some other method than opening a window and letting the cold air stream in. Either there should be a ventilator in the upper sash or a board, four inches high and the width of the window, should be made to fit across the sill. When the window is raised the board is inserted, the sash shut down upon it and air permitted to enter by the space between the upper and the lower sashes. By this plan the air of the room is constantly changed, yet there is no direct draft upon the occupants of the chamber.

Bed, Couch, Easy Chair, and Other Furniture for Mother's Room

With her usual selflessness, mother will be inclined to take as furniture for her room anything that no one else wants. One exception she may be willing to make in favor of the bed, since it is in this that every sick member of the household will find refuge. Was there ever a child who, when in the grip of illness, did not wish to be put into mother's bed? and was there ever a mother who did not cheerfully turn out of her room in order to convert it into a family hospital? In these conditions she may feel herself justified in having a wide bed, with fine springs and a good mattress. If anyone in the establishment needs and deserves the easiest and most luxurious sleeping accommodations, it is surely the mother! Pillows, blankets, and quilts must be of the softest and best; and there should be a change of attractive coverlets or spreads.

A day-couch of some sort there should also

be. Many a time the weary mother would throw herself down for a few minutes' repose on a sofa or lounge when she might not wish to mar the snowy plumpness of the bed. More than this, the tired or indisposed husband or child will often come in for a little cosseting on mother's couch, and it will serve as a sleeping place for herself when the bed is occupied by the invalid of the moment. A wide box-couch with a soft and springy cushion is the wisest choice—better than any sofa with a back or head-piece. Pillows should be heaped on the couch and a light slumber-robe or afghan folded and laid across it.

Among other necessary comforts of the room must be an easy chair for the mother's especial use; one or two rockers or easy seats for the visitors she is sure to have; a bureau with plenty of space for her clothing; and a clothes-press, unless there is a roomy closet. If possible a dressing-table should be provided at which she can sit and arrange her hair and attend to the final details of her toilet, for the mother's feet are usually weary with much standing at her work, and she should get rest whenever it is to be attained.

Beauty as Well as Comfort Should Be Consulted

Comfort is to be the keynote of the mother's room, but there should be beauty as well. The tint of the walls, however these may be finished, should be restful and decided patterns in paper should be avoided. No one except an invalid knows the tortures inflicted upon the sick head and eyes by the obsession of tracing out designs on the walls, of studying how changes might be wrought in the figures. The paper should be plain or with an indistinguishable pattern.

While there may be pictures on the wall of the mother's room, they should be chosen with judgment and such subjects selected as are especially dear to the mother from their beauty or from association. The enlarged photographs of the entire family are not indispensable in a mother's room (where they are usually hung), unless she herself desires them there. As a rule they are put here because no one else will grant them wall-space.

Whatever the pictures, they should be few in number, since dust-collectors of any sort are undesirable; and for this reason bric-a-brac should be conspicuous by its absence. The place for such articles is in the living-room, not in the sleeping apartments. The window-draperies in the chambers must be of a kind that can readily be taken down and laundered, and covers for the dressing-table, bureau, and bed should be of wash materials. Lace, silk, and satin are rich and showy, but they are out of place in a room which is meant for use and comfort rather than for display.

One large rug on the floor is better than a number of small ones over which unwary feet are always stumbling. In the good old days we had carpets which covered the boards from wall to wall and gave us no chance to catch a fall. Hygienists to the contrary notwithstanding, I am not sure but what such a carpet, if carefully and regularly swept with tea-leaves or other dust-subduer, well cleansed periodically with a vacuum-cleaner, and taken up once or twice a year for beating and possible scouring, is less detrimental to health than bare floors and scattered rugs. It is certainly less work and trouble and undoubtedly more comfortable.

Little Luxuries That Mother Would Appreciate

Various little luxuries ought to be provided for the mother. The other members of the household must see to this, for it is hardly likely that she will plan them for herself. A table should stand at the head of her bed with her devotional books and any especial volume she is reading at the time; a "Croton set" with tray, pitcher, and tumbler for drinking water must also be there; a candle or lamp and matches or —far better and safer—an electric torch in case of a sudden call at midnight; an electric-lighted clock or a rack for her watch.

Should the mother have the delightful and—so-called—pernicious habit of reading in bed she should be enabled to pursue her evil courses with least injury to her eyes by a good and strong light at the head of the couch. When the house is supplied with electricity it is an easy matter to rig up a drop-light or a standing student-light for her; but failing this, a gas light may be arranged or she may have a small hand-lamp on her bed-table. Sometimes her only chance for quiet reading is after the other members of the household have retired, and she should be permitted to enjoy it in comfort.

A Few Further Pertinent Suggestions

In the ideal mother's room there is space enough for all I have mentioned and a few others, without crowding. Her sewing-machine may be elsewhere, but she would love to have her desk in one corner and a sewing-table to hold the basket of mending; and a low chair in which to sit while she plies her needle should stand near enough to a window for her to have

a good light on her work. A shelf on the wall will hold a few of her favorite books if there is not room for a book-case.

Unless unavoidable the bed should not be the most conspicuous piece of furniture in the mother's room. Sometimes it is tucked into an alcove, but this is not the best arrangement, since in such a shut-in space it is not possible to get all the ventilation needed. The more fresh air that can surround the sleeper the better for her health and strength. But the bed may stand at one side of the chamber out of the direct draft or protected by a screen, and the centre of the room be left comparatively free. The dressing-table and mirror ought to have a good light upon them, and so should the desk and the sewing-table.

When the mother must take what she can get in the way of a room—that is, when even the best in the house is not of the size and exposure it should be—effort must still be put forth to make the most of existing conditions. The room should be prettily papered, the pictures attractive, the bed comfortable, the few chairs for which there is space easy and restful and every adjunct of covers, draperies and the like dainty and spotless. After all, it is the mother who makes the room; and when she is surrounded with the best the household can supply, those who seek her chamber as a haven of refuge will not quarrel if the space is limited, will not complain if the appointments are simple. Mother is there, and it is the very heart of the home.

BOYS' ROOMS

BY

ANTOINETTE R. PERRETT

A BOY'S room has every chance of being one of the most interesting rooms in the house. It may be a workshop in the basement or in the rear extension, an improvised corner in the open attic, or a small study, but if it enters into the spirit of a boy's activities, it is sure to be a good-looking and well-furnished room. The mind is all-powerful in the debasement or elevation of a material, and a boy should early realize this power over his surroundings. There is no material so humble but it can be ennobled through thought.

Though a Humble Material, Brick Has in Every Age Responded to the Call for Beauty

Brick, for instance, is a very humble material, an insignificant unit of baked clay, the oldest of manufactured products, commonly used for street pavements and foundation walls, and yet through all the ages it has responded to the call for beauty, to the longing for art. There is brickwork in Persian mosques and palaces that rivals in pattern-work and color the richness of the Oriental rug, but the simplest brick wall in a basement has opportunities all its own. It need not be unfriendly or dingy. It can be companionable and full of warmth. The more you learn about brick, the more you can make it express. We are a race of clay-workers, and we have inherited a feeling for the brick's quality and color and for its laying and jointing. In Philadelphia and Wilmington the brick with its marble sills and door-steps has a Quaker look. And you will find that the brickwork of every town and country that you visit can tell you much about its personality. In the carpenter workshop the brickwork has been laid with large joints to give it a robust quality, and in red mortar to make it a one-color surface to contrast with the panels of cement. The horizontal line of the window-apron, which is the technical name of the strip of wood beneath the window-sill, has been continued around the walls to form a horizontal line division. The brickwork above is covered with a smooth coat of cement plastering and then paneled off to correspond with the window-sashes. In this way the high windows do not look as lonesome as cellar windows so often do, for they are made a vital part of the decorative wall treatment.

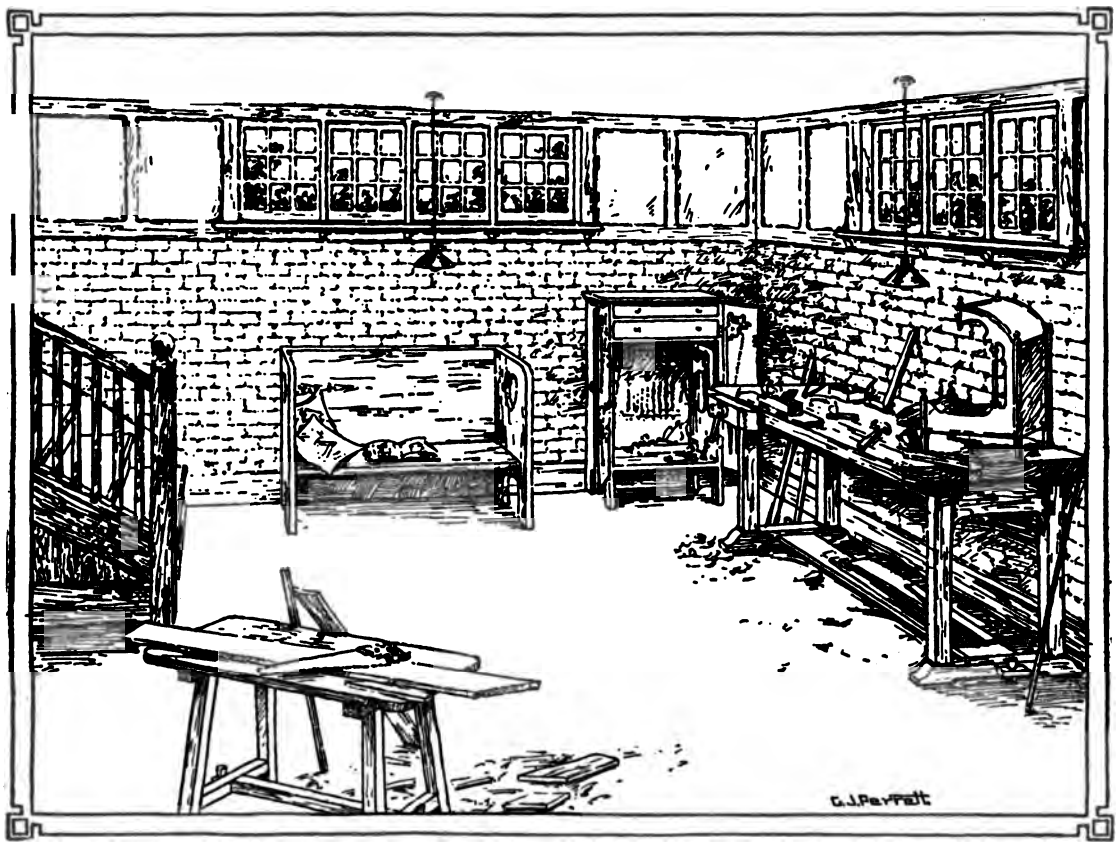
Furniture That Is Strong Not Alone in Construction but Also in Imaginative Quality

In these illustrations we have taken every-day rooms and furnished them with every-day practical furniture. The carpenter shop is, for instance, our own home laundry fitted up with a work-bench, a stool for sawing, a small tool cabinet, and a seat for the comfortable study of plans and directions. But our purpose is not only to show you a practical every-day work-shop. It

is to show you how you can make this practical every-day workshop beautiful through an emphasis on all that makes it a workshop and through an understanding of the fundamental laws of beauty. It is to show you how you can make walls rich in meaning through your knowledge of material and your feeling for lines; how you can make your furniture strong not only in construction, but in those imaginative qualities which will make it a bond between you and past ages and distant lands. A piece of furniture is more than an article of utility. The seat in the carpenter shop, for instance, was suggested by a child's Gothic chair of the early fifteenth century, which is now in Dr. Figdor's collection at Vienna. The early fifteenth century was marked by the growing importance of cities rich in industry and commerce. The names of such municipalities as Augsburg, Florence, Frankfort, and Venice may be mentioned in this connection. These cities were centers not alone of commerce but also of art.

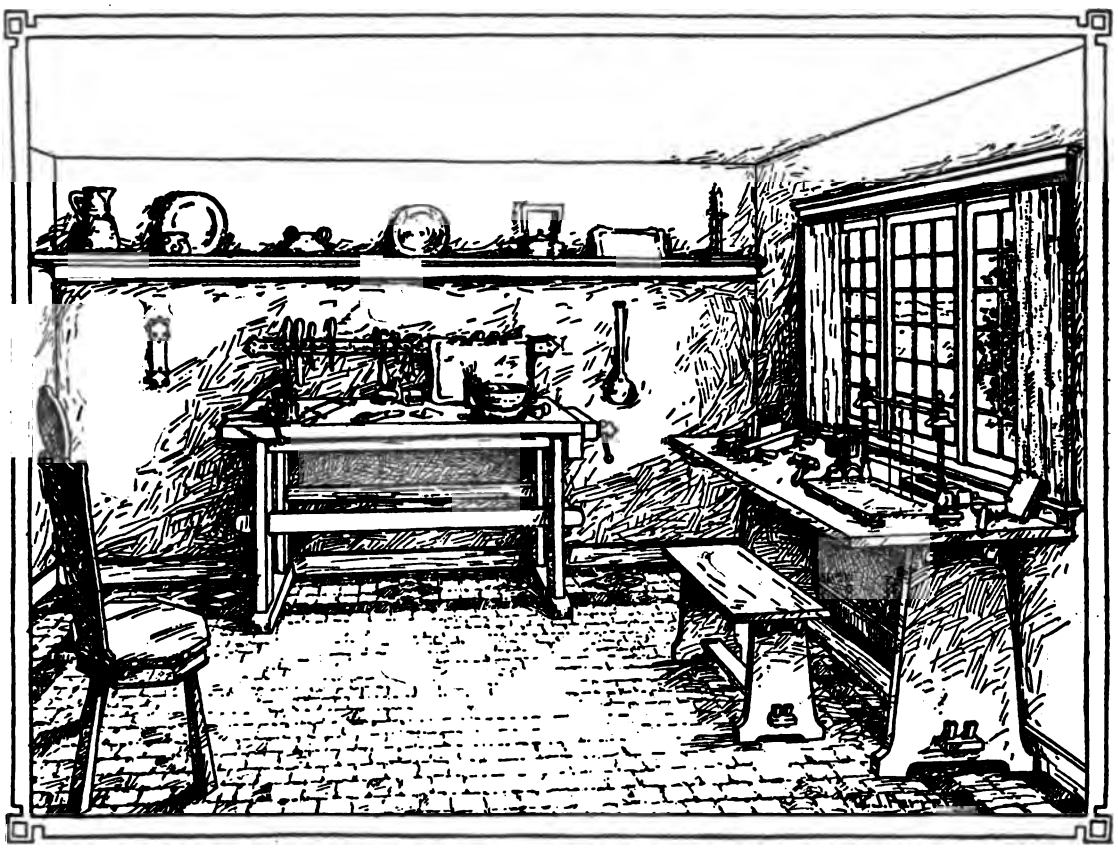
Medieval Skill in the Crafts of Carpentry and Cabinet-Making

The gilds of craftsmen formed not only the very backbone of this prosperity, but they laid the foundation of the new culture as well. It was the time when the most famous Gothic gild-halls, patrician city houses, and town halls in Europe were built. The half-timbered houses were rich with carving. Sculpture was lavished upon the churches and the market-places. The carpenter and cabinet-maker were masters of their craft. It was not for nothing that a boy served seven years as apprentice and seven more years as a journeyman before he became a master. The Gothic tables of oak were made for all time, so strong were they. The examples that are left to us have grown more beautiful with age both in color and in the softened quality of their carving. In the Tyrol, Styria, Salzburg, and other parts of Austria, tables are still made



THE CARPENTER SHOP IN THE LAUNDRY

in the same fashion. Built of strong wood, without ornamentation of any kind, they are splendid forms for work-benches. We have not directly copied the designs of the work-benches, but we



ANOTHER WORKSHOP

have tried to learn from these old tables how to make framework picturesque as well as strong, and how to get into the spirit of the mortise and tenon joints and the wooden pegs.

A Workshop Should Teach a Boy that the Needs of Daily Life Are Served by Art

A three-legged stool would have, perhaps, served all necessary requirements in the second workshop, but a chair-back adds a not unwarranted bit of comfort. The medallion-shaped top is for a monogram or seal. It can be worked in color, or in carving, or on an inserted copper-plate, and can give your workshop a pleasant decorative touch. It was suggested by a fifteenth century chair from the Strozzi Palace, which is the sternest of all the famous Florence street fronts of rusticated stone. It was only the street fronts of these palaces that were stern as a defense against medieval street broils and faction fights. In the interior there were court-yards and rooms made splendid through the work of many artists. This chair from the Strozzi Palace was probably designed by its architect. The architects of that time were not only designers of buildings, but artists and craftsmen as well. In Florence there were no art schools and no schools of architecture. The boy was brought up in the workshop and learned to be an artist and an artisan at the same time. Ghirlandajo, one of the greatest of early Florentine painters, used to paint hoops for women's baskets; Brunelleschi, the builder of giant domes, chased rings and set jewels; and Michelangelo is as well known as the painter of the Sistine Chapel ceiling and for his sculpture as for his work as an architect of St. Peter's and the Farnese Palace at Rome. Each artist did the work that came

his way and made daily life beautiful in small things as well as in large public commissions. A workshop should not only give a boy a mechanical readiness and skill in the use of tools. It should give him a means actively to express his growing ideas through the work of his hands. It should teach him that art serves the needs of daily life. There is art in the hammering of a copperplate, in the shape of a bowl, in the coloring of a candlestick, in enameling and repoussé; and there is a pleasure in knowing how to appreciate this art.

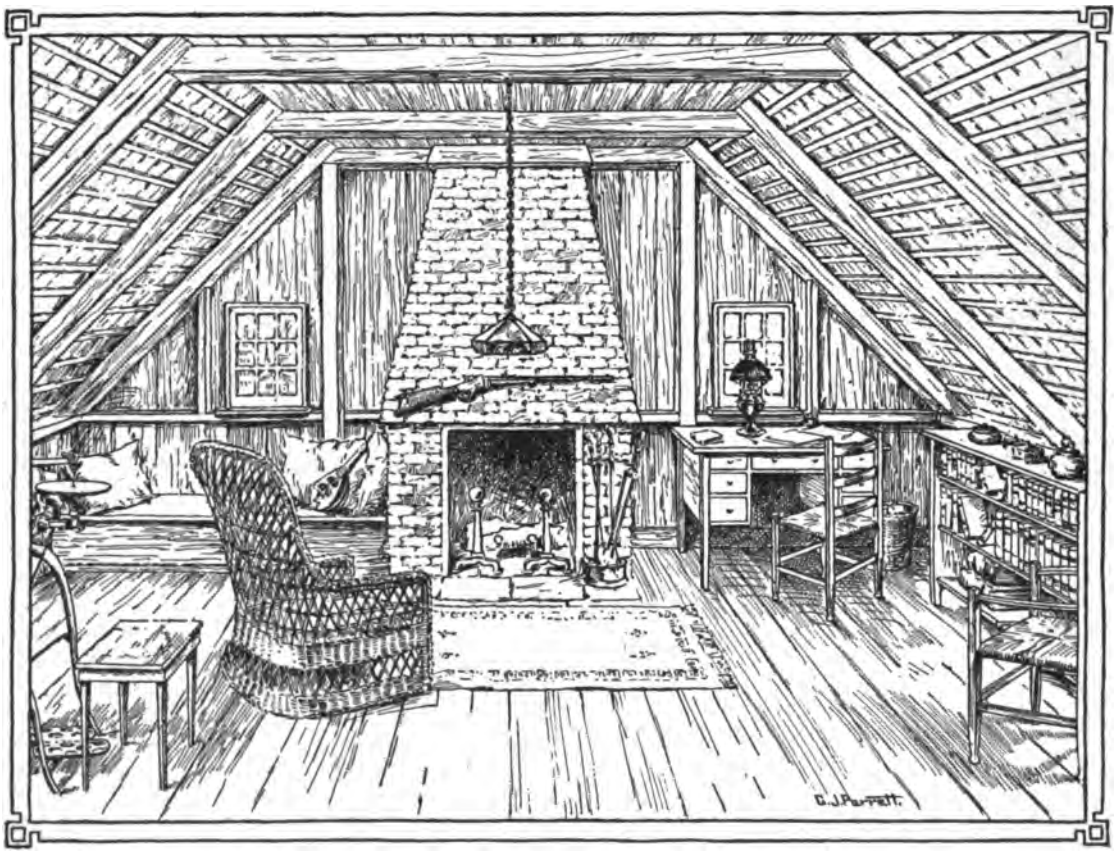
Interesting Lore Associated with Such Materials as Osier, Bamboo, and Cane

There is pleasure in many things and often where we least expect to find it. Take the wil-

ease; but some day you must make friends with it. You must become interested in it, not because it serves you, but because it has a personality of its own. Do not think that its life is hemmed in by the slanting roof-lines or that its vision is bounded by the casings of the small attic windows. It is made of the osier willows immortalized by Shakespeare·

"The rank of osiers by the murmuring stream."

It is made of the osier willow, the Latin *Salix viminalis,* after which ancient Rome was proud to call one of its seven hills. The Collis Viminalis is a sister hill of the Quirinalis and has shared Rome's fortunes since the time of Servius Tullius. The osier twigs are small and pliant. They are so useful in the weaving of basketry

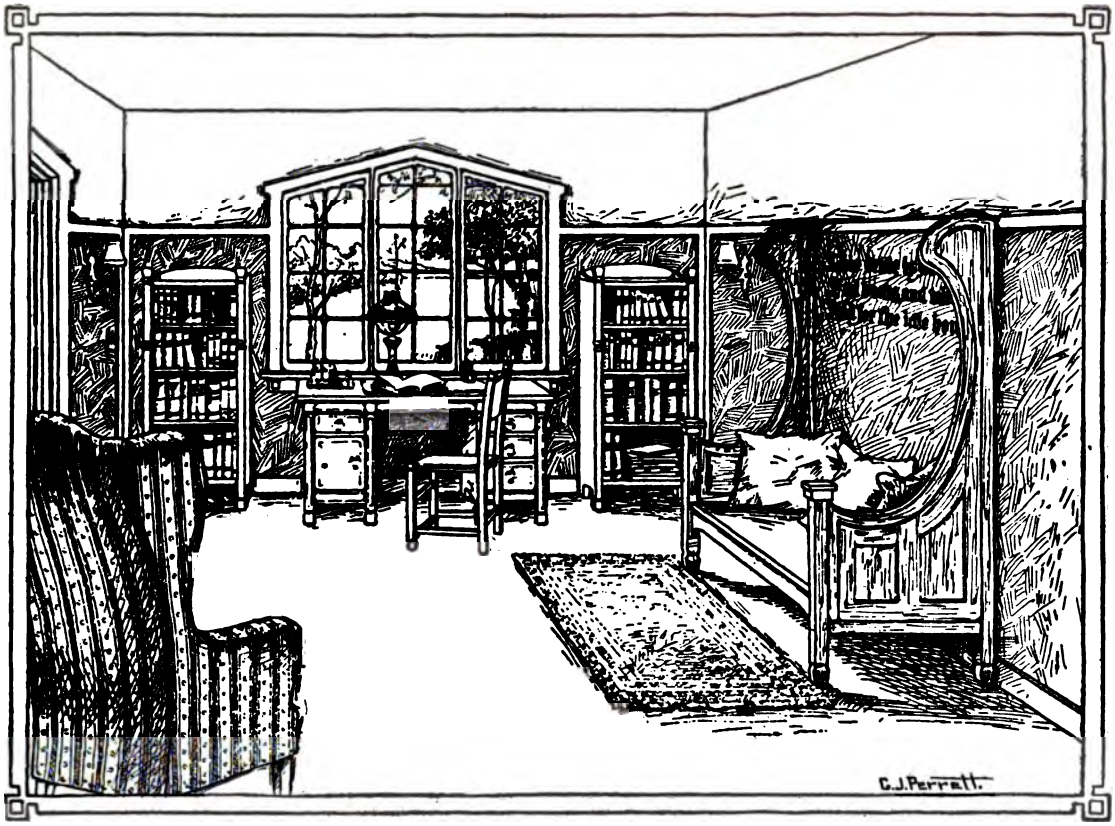


A BOY'S ROOM IN THE ATTIC

low chair before the attic fireplace. It was put there to let you read under the light of the hanging dome or to let you dream by the firelight. It is a creature of your comfort, a vassal of your

that the Germans call the tree the basket willow. The willow takes you to wet places. It loves the streams and the life of the banks and meadows. It loves the swaying and breeze-dancing of the

flags and rushes. For that reason we gave the attic willow chair the congenial society of the rush bottoms. The soft, slender stems of the aquatic and marsh-growing rushes are excellent for bot-



A BOY'S STUDY

toming chairs and plaiting mats, and so are the sword-shaped leaves of the flags.

On Winter Nights the Rushes Will Whisper of Summer Life in Marsh and Stream

So you see on cold winter nights, when the wind whistles without and you have finished your evening lessons, the willow chair and the rush bottoms can talk to you just as the tea-kettle and the cricket on the hearth used to talk, and they can tell you about the warm summer life of the streams and marshes.

Bamboo, also, belongs to the grasses, but it grows in tropical countries, and as high as forty feet. Its old stalks are five or six inches in diameter, and are so hard and durable that they are used not only for furniture, but for buildings, water-pipes, and for poles to support the palanquin, a conveyance used in India and China and carried on the shoulders of men.

Cane is also good for chair bottoms. You must weave a seat of it on hickory stretchers to know what fun it is. The word *cane* is probably of Semitic origin and from the same derivation as the Hebrew word *qāneh,* meaning reed. It is the name given to several palms with long, smooth, flexible stems. In our colonial times chair bottoms were woven of the inner fibrous bark of the bast- or linden-tree and sometimes of the elm.

A Study Room Designed as a Retreat for Concentration and Restful Thought

The study-room in the illustration is meant for perfect quiet, for concentration of thought. Its walls are a gray-green, and its furniture a nut-brown. There is a scholastic window suggestive of Oxford, of the cloister windows of the quad-

rangle of Magdalen College. The book-cases are made tall and narrow to suit the wall-spaces, and stand like sentinels of knowledge on either side of the desk. Seated on a straight chair in such surroundings, and with such heavy tomes to guard him, can a boy help studying? But Stevenson says—and we want to be followers of Stevenson—that "It is surely beyond a doubt that people should be a good deal idle in youth."

There is such a thing as being too busy studying to find time to think. To guard against such a calamity, we have surreptitiously introduced a winged chair, flagrantly soft in its upholstering, and a settle that flaunts its lines in carving:

"This settle is for friends,
And books, and talk,
And for the idle hour."

A room, like a boy, should be well balanced; and a room that can persuade you to think will not make you dull with study. That is what a room should do: it should make you think, and it should make you think about your surroundings. It is the ideas you have about the things around you, the ideas you put into these things, that make the opportunities of your room.

GIRLS' ROOMS

BY

ANTOINETTE R. PERRETT

EARLY in her teens, a girl feels the impulse to add cheer and beauty to her surroundings, to make her room the interpreter of her higher life, and to fashion joy or contentment out of the things that serve her daily needs. There is an art and a high art in giving a soul to things and in realizing the beauty that is fitting to the place that belongs to us. Sometimes a girl thinks that riches bring beauty to a home. That is not true. Knowledge and appreciation, good taste and imagination, and a willing spirit, these are the helpers. Do not mistake luxury, as young people often do, for beauty. Learn to look deeper into the heart of things. I often think that the great thing that I learned at college, the best lesson of all my studies, of languages and history, of mathematics, of chemistry and astronomy, of music, was just this: that the universe is a universe of laws. The sweetest melody, as well as the orbits of the planets and the conjugation of the verbs, is governed by laws.

Sincerity Is One of the Foundations of Good Taste

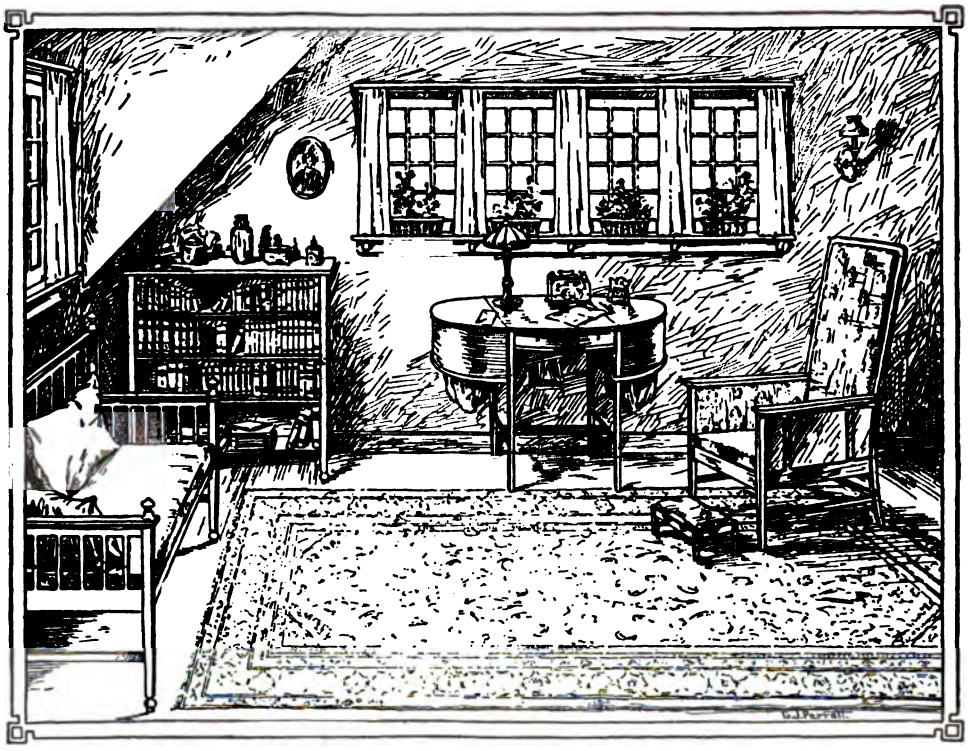
And with the beauty of our own four walls there are laws of proportion, of composition, of color, of design. As you feel and understand these laws, you will gain a power far greater than riches to transform your surroundings. You will have ever at your beck and call the handmaidens who will help you to express the growing world of your imagination in the familiar scenes of your daily life.

There can be beauty in the color of a tinted wall as well as in the richness of brocade, but there cannot be beauty in an inexpensive roll of wall-paper that seeks to imitate brocade. In the ready distinction between sincerity and sham, between naturalness and pretense, lies one of the very foundations of good taste.

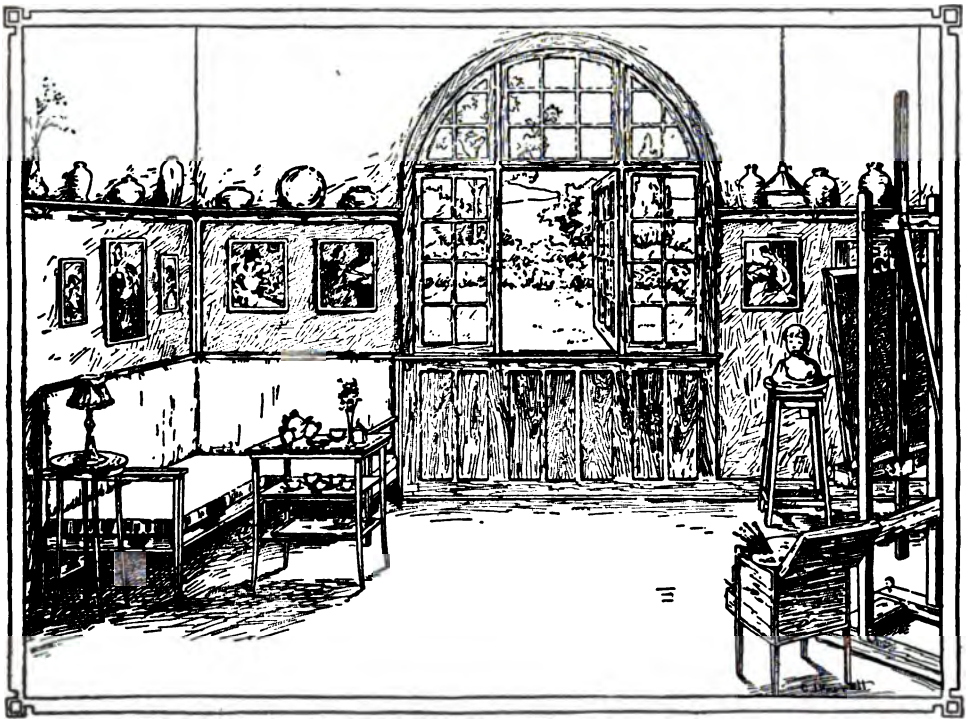
The Rug and Other Details of the Attic Sitting-Room

A rug may be a modern floor-covering from a Western loom, but it cannot hide the effect of ages nor forget its Eastern influence. The rug in the attic sitting-room (see picture) is a design from far-away Persia, where scarlet poppies and red anemones, yellow snapdragons and the white henna, the carnation, iris, tulip, and narcissus grow upon the hillsides among the pasturage of the flocks. The rug has patterned this wealth of flowers in its close all-over design and in its richness and harmony of color. The background is a deep blue. There is some white, some yellow, and some pale French blue. But the rose-color seems to have blended all these into its own subtle self.

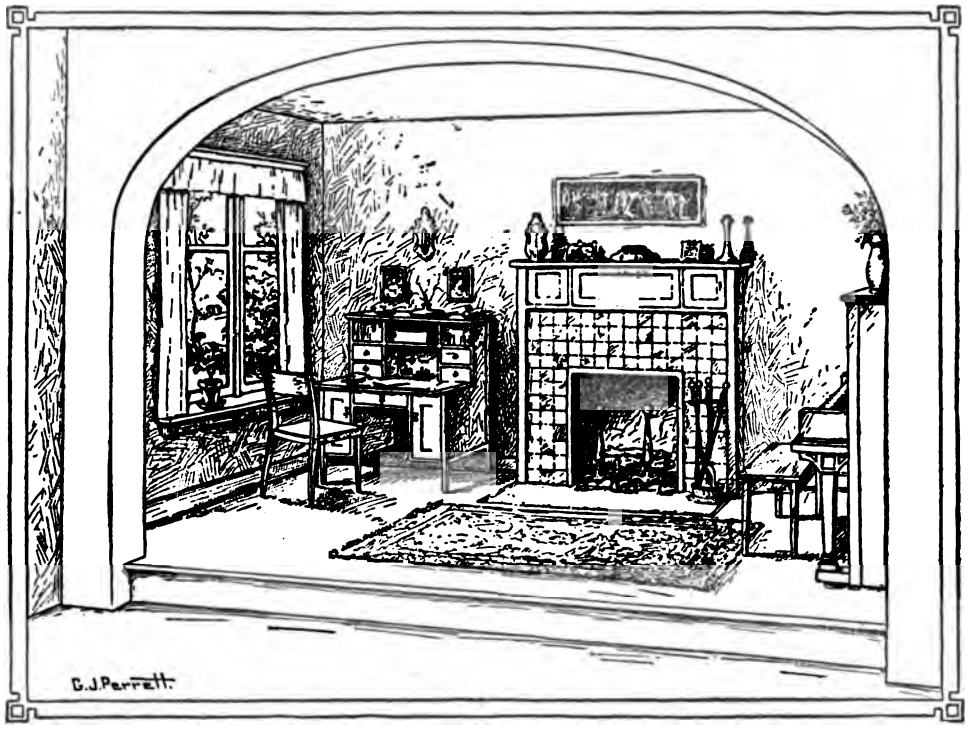
The walls of the sitting-room are tinted a dull buff, a kind of old yellow. What wall would dare to be spotted with flowers or pattern in the face of a Persian rug with its wonderful feeling for color and marvelous skill in design! Plain surfaces through their very contrast give value to ornament. You sometimes have to cultivate an acquaintance with Spartan simplicity, to make artistic sacrifices, for the sake of achieving artistic successes. Beauty lies, not in lavishness nor in bareness, but rather in a thoughtful moderation.



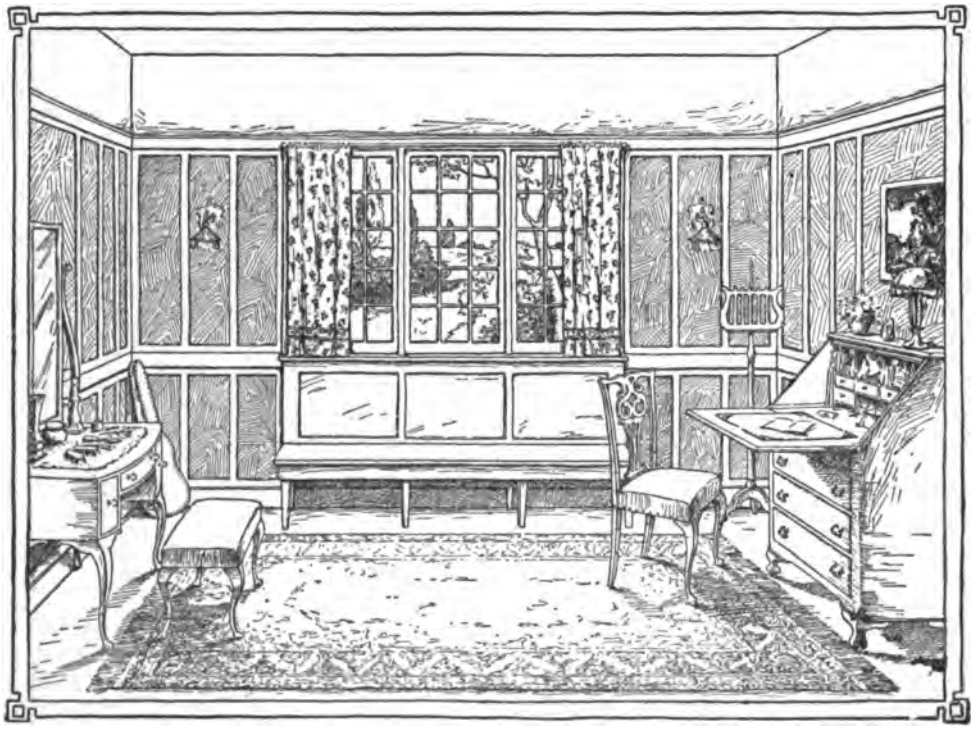
THE ATTIC SITTING-ROOM



THE STUDIO



THE ALCOVE NOOK



THE BOUDOIR

Cozy Seats and Nooks Are Always Attractive

The first form of long seat in this country was the high-backed fireside "settle." Since then it has assumed various forms and has been called by various names, such as settee, couch, double chair, and sofa. Still its popularity remains, and it is growing in usefulness and variety as our homes grow in taste and charm. A cozy seat is always an attractive piece of furniture for a girl's room. It invites confidences as well as sociability. The settee in the attic room has a certain girlish lightness in its posts and in the space-divisions of its arms and back. It is wonderful how a piece of furniture can express the ages and the moods of people. In the girl's small boudoir (see picture) is a white painted bench with a paneled back. In the girl's studio (see picture) there is a neatly upholstered corner seat that helps to give the room, with its heavy oak easel and its modeling-bench, a suggestion of feminine comfort. Who can resist the invitation of the tea-nook? Who does not love its party spirit and gaiety in the gloaming of a winter afternoon? The tea-pot is such a warm busybody. It makes the world seem full of happy nothings. It has such a good-natured rotundity of form, it almost looks rollicking by the side of the precise little cream-pitcher. The tea-table in the studio has two lower shelves, one for the extra cups and one for the tray.

A High, Round Window Is the Outstanding Feature of This Pleasant Studio

In this studio, the high, rounded window with its small panes of glass and its paneled back of oak is the architectural feature, as the window of a studio should be. The grayish-green walls and the weathered green woodwork give the room its color restfulness. A studio naturally lends itself to decoration. The wall-shelf has a collection of simple pottery, shapes that a girl can mold herself. When it comes to pictures, I think it a mistake for a student to follow an artist's example in surrounding herself with her own work. There are many things a master may do with impunity and success that a student does not profit by. It looks unambitious, at least, for a girl to surround herself with her own sketches, when the world is full of masterpieces that can be daily an inspiration to her. Every student has her own favorites. It is by decorating her walls with the pictures she loves that a girl can best give her room the individual touch that a room should have.

In the studio are prints of "The Butterfly" and "A Quiet Hour," by J. W. Alexander, portraits effective and graceful, full of a modern poetry. The girl putting on the hat is by Frank W. Benson. The picture on the side wall is "The First Music Lesson," by Francis Day.

The Alcove Nook—The Problem of Space-Filling, Especially in Connection with Pictures—An Attempt at an Analysis of Arrangement

In the alcove nook, over the fireplace, is "The Castle of the Maidens," by Edwin Abbey, which forms part of the frieze decoration "The Quest of the Holy Grail" in the Boston Public Library. Its row of beautiful maidens makes it peculiarly appropriate for a girl's room, while the long, low composition makes it an excellent space-division over the mantel-shelf.

The problem of pictures in a room is not only a problem of pictures. It is a problem of space-filling. Of course, this problem of space-filling concerns doors and windows, fireplaces and lighting-fixtures, and wall-paneling even more than it does pictures. We hang a picture in a certain position without being able to explain why we feel satisfied when we hang it so. In the studio, along the window wall, for instance, we hung four portrait studies of equal size and felt content. But why? I think it was because they helped to emphasize the horizontal line of the shelf, an emphasis that was needed because of the very interest aroused by the window with its long vertical lines and rounded top. On the side wall, on the other hand, two pictures of equal size looked strangely unsatisfactory. They gave to the wall-space above the seat something that was at variance with the feeling of completeness that helps to make the charm of a cozy corner. In the attic sitting-room, the oval frame balances the lighting-bracket. Here you will notice the sewing-table. It was selected not only because it has quaint pockets and a girlish lightness of construction, but because its oval top relieves the long, narrow lines of the casement window through the introduction of a curve. In the girl's alcove nook, the long, low picture gives a space-meaning that no other shape would have expressed as well. Two high, narrow panels, for instance, would have increased not only the height of the mantel, but the very height of the walls. That may be exactly the effect you need in some rooms. But here the mantel-shelf is high. What it needs is the broadening effect that the frieze gives it. Over the desk, the candle-sconce takes part with the photographs of girl friends in a somewhat conventional but not unpleasing triangular arrangement.

The Boudoir and Its Dainty Features

In the boudoir there is another problem. This room is a small room in front of the upper hall, with which it is connected by double doors paneled with small panes of glass. The walls are not wainscoted, because wood paneling is too expensive. But the general line effect of wainscoting is expressed in an inexpensive way through the use of wooden strips and fabric paper. The wall-space has been divided horizontally into three parts by a chair-rail on a line with the window-apron and by another wooden strip continuing the line of the top of the window. There are three vertical strips making small upper and lower panels. Then there are the triple windows, the doors, and the broad panels against which the desk and the dressing-table have been placed. The dressing-table mirror fills the upper panel on the left side, but the panel above the desk needed an added space-division. To have used several small pictures would have broken the dignified wainscoted look that the strips are meant to give, but a single large picture of importance emphasizes this intention.

A Room Is an Art Product

The picture chosen for this position of honor is by Sir Joshua Reynolds. It is a portrait group of the three beautiful daughters of Sir William Montgomery. It is a picture full of youth and grace, and it reveals not only a world of fashion, but a world of taste and refinement. It reveals the world of the Chippendale chair. The Chippendale chair stands idly shoved back from the desk. Perhaps you have overlooked it. But a Chippendale chair is the English aristocrat of chair history, the culmination of beauty in English chairdom. Its every part is full of meaning and history.

In these four illustrations our aim has been to show you that your own four walls will respond to your dreams and longings; to show you that a room is an art product, rich in thought and in all those qualities and possibilities that make for culture and happiness through all your life.

THE NURSERY

BY

MARGARET BELLEVILLE STEVENSON

"A CHILD in the house is a well-spring of joy." That is the motto over the fireplace in a home where six bright, happy children make life interesting. The sunshine and cheer of this home are felt the minute you enter the door, before you see the six sunny little heads that are the life of the house. And you feel it on a gray day quite as much as when the actual sunlight is flooding the windows. It radiates from the presence of these healthy, happy, rollicking children.

That they are well-springs of joy instead of disorder, confusion, and over-work and over-worry for the mother is because there is a well-thought-out plan for their management; because they have a room, or rather rooms, in which to play; and because their coöperation is enlisted in keeping the home orderly and its spirits serene and happy. If any advocate were needed, in this day and generation, for the practical and ethical value of nurseries for children, the atmosphere of this charming, happy home would be an all-sufficient one.

For that a nursery should be provided, even in a home where there is but one child, is now conceded by all interested in children's welfare; and, where there are several children, it is a necessity, if the children are to develop in the happiest, freest manner. The studies and experiments in psychology now going forward so generally all over the country are bringing to light the subconscious effect of environment upon children. It is being found that even such material and apparently insignificant things as wall-paper and carpets have a decided influence upon a child's development. So the question whether a child shall have a room adapted to his childish needs, or grow up amid the surroundings provided for older folks, has a deeper significance than the mere matter of scattered toys, or the assurance that he is not playing in the street. And, if necessary, it is better to sacrifice a sitting-room, or even a parlor, in order to provide a nursery, than to compel children to pass their days among the furnishings and the work of their elders. Nor should the question of expense block the way to giving the children a nursery. Any amount of money can be spent on it, but a very charming room for a child can be provided at little cost, if thought and knowledge of a child's needs go to its furnishings. A

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child knows nothing of cost. It simply delights in results that appeal to it.

The Window-Seat a Pleasant Spot—A Kindergarten Table

In choosing a room for a nursery, one that is sunny should be selected at all costs. If a low window-seat can be provided, so much the better. And, as it can be utilized for storing toys, it has its practical value. If the seat is upholstered, detachable coverings, that can be fastened on with snap fastenings, can be used, and thus the trouble of keeping the covering fresh is reduced to a minimum.

In the nursery of these six children whom I have already mentioned, the window-seat is one of the pleasantest spots in the room. The window is filled with growing plants. Each child has its own bulbs growing in glass, and takes keen interest in watching each root and leaf unfold. An aquarium, with tiny goldfish, adds interest of another sort. In front of the window-seat is a stout kindergarten table. This table is marked off into squares and has holes for pegs, and so offers unlimited opportunities for games of all kinds. These kindergarten tables can be bought at kindergarten supply stores, though this one was made to order, that it might be especially strong.

Pictures That Will Have an Appeal for Children

All about this nursery are pictures such as children love. One feature, in particular, that appeals to these happy youngsters is that each has a little passe-partout post-card frame hung on the wall. And as friends send the children post-cards, each child slips his card into his own particular frame, and thus the pictures are constantly being changed. And this is a feature that has an appeal for children.

Another series of pictures which interest children greatly, and which are to be found in kindergarten supply stores, show the various processes of some particular occupation, each occupation being shown, in all its parts, in the one picture. Thus there will be a picture of a miller, with the grain in various stages of being milled; a picture of a wheelwright at work on the various parts of his task; of a baker, and so on. These pictures are by good artists, delicately colored, and never lose interest for a child. Incidentally, they carry a lesson of value to the child's mind.

The question of pictures for the nursery is a mooted one. Some parents prefer copies of the old masters, as they think these inculcate a taste for the good in art. Others claim that the pictures should be such as can be easily understood by a child, and will appeal to his imagination. Perhaps some of both kinds could be used to advantage. Some of the Madonnas are always appropriate. Maxfield Parrish has done some lovely things to furnish food for the imagination. Watts' "Sir Galahad" is an inspiration to any small boy. Walter Crane, Kate Greenaway, Cecil Aldin, John Hassall, and the Danish artist, Carl Larssen, have all done work that especially delights children. And in a kindergarten supply store can be found pictures such as have been described. There is no dearth of good art from which to choose, either old or new. The main thing is to hang the decorations low. For, it must be remembered, children do not see from the height of grown-ups.

Desks—Book-Cases—Chairs—Toy-Cabinets

These six children find great delight in their pictures, their window-seat, their flowers, their fish, and the big kindergarten table. In addition, a small desk for the oldest boy, a golden-haired little fellow of seven, is on one side of the room. Over it hangs "A Boy's Creed," which reads as follows: "And he was instructed in the first duties of the true knight,—to reverence God and honor the King; to speak the truth at all times; to deal justly with both friend and foe; to be courteous and obliging to his equals; to be large-hearted and kind to those beneath him in rank; and above all to help the needy, to protect the weak, and to respect and venerate the ladies." On the other side of the room is a low book-case filled with books suited to childish needs and hearts.

Chairs for children are an important consideration. They should be low enough for the feet to rest upon the floor. They should not have spindles in the back, as these press on the spine and are bad for children's nerves. Kindergarten chairs are the best kind, with a cross-piece on the back at just the right height for the child's shoulders. It is also wise to provide places for keeping toys. It is not always possible to find suitable pieces of furniture; but it will not cost much to have a low cabinet made with doors to open or to slide, in which the playthings can be stored. With a pretty scarf on the top, such a cabinet is really an ornament to the room.

A Corner Cupboard May Be a Treasure-House

In the nursery of these six children, one of the most attractive pieces of furniture is a cor-

ner cupboard in which are stored all the little souvenirs and mementoes sent or brought the children by relatives and friends. These little trifles are very dear to childish hearts; but, if scattered about, they get broken or lost,—or, at any rate, are a great trouble to keep dusted and in order. But here, all ranged prettily on the shelves, they really add an attraction to the room. When gathered together, they have a certain impressiveness, and are most interesting to look over. Tiny wooden shoes from Holland hobnob with flaxen-haired figures from Norway. A happy little darky on a bale of cotton looks rather disdainfully at a little black head from Jamaica. This cupboard is a treasure-house to the children. To make its wonders more appreciated, and incidentally to prevent them from being scattered about too frequently, the cupboard is kept locked; and it is looked upon as a great treat to have its doors thrown open, and the treasures brought forth, or lovingly fingered.

Another playroom is provided for their larger toys, and also for the bureaus and chests of drawers in which their clothing is neatly kept. Adjoining this is a dressing-room and bathroom, and beyond, an outdoors sleeping-porch in which are six little beds. Here the youngsters sleep in absolutely fresh air, and thus lay one of the most important foundations of the sturdy health that is so large a factor in their happiness and good nature.

Labor-Saving Ideas in the Equipment of the Nursery

Everything in this nursery has been planned to reduce work to a minimum. A special closet has been built in which the little shoes are kept. Another is for the night-clothes and sleeping bags. And these sleeping bags, it may be said in passing, are made of quilted lamb's wool. In another closet are hung the day-clothes. A bag with pockets for each child's stockings hangs on the inside of another closet door, and insures the hosiery for both morning and afternoon being ready at a moment's notice.

Nailbrushes and toothbrushes are ranged in order over the washstand. The bath-tub is raised on blocks to do away with the tiresome stooping position while bathing the little ones. A laundry tub is in the bathroom, so that the baby's laundry can be done here each day, without interfering with the work going on in the kitchen and laundry below. A laundry chute carries the soiled clothing directly from the bathroom to the laundry.

In the basement is also a little room in which he children, when playing outdoors, come to take off muddy rubbers, and to wash their faces and hands before coming upstairs. Even the matter of pinning the children's bedcovers on them in their outdoor sleeping-room has been carefully thought out, so that the sheets will not be torn. A piece of white elastic is attached to each of the four corner-posts of the bed, and a large army-blanket safety-pin is used to pin the coverings to this elastic. But, instead of pinning through the coverings and the elastic, as is usually done, with the result of many torn sheets, a marble is placed in the sheet, the pin clasped, not pinned, below it, and the covers are thus securely held without danger of tearing the sheet.

In this nursery, the needs of the children and the work of caring for them have been cleverly met; and this is what all parents can do for their own particular case. So much space cannot perhaps be given in all homes, nor is it needed, if there are but one or two children. But a nursery can be planned according to individual needs that will give quite as much delight to the child, and save the mother, or nurse, work in many little ways. And it can be made to fit the family purse, as well as the child's needs.

Hygienic and Sanitary Features to Be First Considered—Some Helps

In planning a nursery, certain general requirements should be borne in mind. Its hygienic and sanitary features should have first consideration. It should be furnished so as to be easily disinfected, for disinfection may be necessary. The plumbing, if any, should be open. And a well-known woman physician adds that a nursery should not be also a sleeping-room. She says that a child should not sleep in the same room in which he plays. So that, if another room for sleeping can be provided, it should be an outdoor room, if possible.

Another essential of the nursery is plenty of sunlight and fresh air. A room with a southern exposure is best. An abundance of fresh air is imperative. In the summer, of course, the windows can be opened. But, if this is not practicable in winter, ventilators for the windows should be installed.

Round corners are desirable in a nursery, as they prevent dust from collecting. Unfortunately, they are seldom to be found in houses already built. But, if a house is being erected in which there is to be a nursery, this room should be constructed, if possible, with round corners.

The walls should be painted or covered with washable wall-paper, and it is well not to have too much green in the coloring. Children are apt to rub the walls with wet fingers, and then

to put their fingers into their mouths, and a green coloring is often slightly poisonous.

A very pretty effect is given by painting the lower part of the wall, and finishing the upper part with some of the attractive friezes designed for nurseries. The Barnyard frieze, the Noah's Ark frieze, the Mother Goose frieze, are all a constant delight to children. Paints can be applied nowadays so as to have the effect of cartridge paper or fabric papers; or, burlap or other fabrics can be put on and then painted. Paper can also be varnished so as to be washable. There is, in fact, quite a choice of artistic wall-coverings for nurseries, all of which can be easily cleaned; and this is, of course, a prime essential. The floors should be preferably of hardwood, with rugs scattered about. These rugs should be soft in texture; harsh or coarse rugs are apt to scratch and irritate a child's tender skin. The children play upon the floor most of the time; so the floor coverings should be chosen carefully. Attention should also be given to see that the doors shut tightly at the bottom, or else there will be draughts across the floor.

It is well now and then to burn a formaldehyde candle in the nursery. Even with the greatest care, rugs will become soiled occasionally; and if children have pets, such as cats or dogs, in the nursery with them, there is a possibility of disease germs being brought in. It is little trouble to use some disinfectant once in a while, and it is a wise precaution. And then, to this sanitary, artistic foundation, add the pictures, the flowers, the toys; the comfortable, appropriate furniture; and in this environment the childish nature will unfold as naturally, as perfectly, and as certainly as does the flower in the right soil.

THE CHILD'S ROOM

BY

CAROLINE B. BURRELL

ONE of the first things that tend to develop the individuality of the child is the pride and independence of having a room—not the communal nursery, but a place where he may have his own closet, his own treasure-drawer, and his own books. Perhaps the mother may think this develops selfishness, but when she sees that the child is becoming too exclusively interested in that which is his own, she may counteract it in any one of several ways. Often in the case of large families and small houses, it is impossible to have single rooms; but children may at least have separate beds, separate bureaus, and places for their own best-beloved belongings. As soon as one gets beyond the stage of babyhood he feels that his personality has a right to assert itself in a choice of possessions and in the joy of collecting and caring for them; the bed-room of the boy or girl is the best place for developing neatness, carefulness to detail, and the excellent trait of having an interest in some special thing, whether it be dolls, stamps, or gold fish.

The Child's Room Should Be Made Attractive and Appropriate

In many families there is a prevailing idea that anything will do for the children's room; that children never notice such things as worn-out, yellow-oak bureaus, pictures that the grown-ups abhor, wall paper of spidery design, and other atrocities. This idea is one that is not only erroneous but most injurious to the child. More than that, if he is to remember his home with affection after he has left it, it is really necessary that his own room should be made pretty and appropriate to his needs and desires. That does not imply, however, that money need be lavished on preparing anything over-dainty for a child, who will undoubtedly kick the furniture at times.

First of all there should be a plain floor-covering; not a well-worn carpet that used to be in the parlor, but either a matting or a rug laid upon a surface of dark-brown stain. The mother knows only too well what hard wear that floor is destined to endure, and it is easy to give it a coat of dark paint that will wash and won't show ink-spots. Rag rugs are excellent to use if there is nothing better to put down, as they wear well and may be dyed.

The selection of wall-paper is of importance, as the character of the paper affects the atmosphere of the whole room. If there is a cold north outlook, choose something warm—pink or yellow, or a gay flowered paper, and avoid dull blues and greens. But if the sun pours in cheerfully, cartridge papers of soft tones will do; moreover, pictures look especially well against them. The boy will probably prefer Indian red or

hunter's green, while the girl usually likes a delicate paper, with flowers or colored patterns on a pale background.

A Few Suggestions toward the Selection of Pictures and Books

If a mother wishes her children to know good pictures and to appreciate them, a good place to begin is when she furnishes the child's room. Animal pictures are especially popular. Instead of framing advertisements or magazine illustrations (a cheap and convenient method often resorted to), try to choose some of the famous works of art that children love. How many of us have been brought up with Landseer's "Dignity and Impudence" to keep a watchful eye upon us? Besides the many landscapes, there are Van Dyck's "Baby Stuart," Watts' "Sir Galahad," Hofmann's "Christ in the Temple," and other lovely and truly great pictures, all of which are appropriate and which the children will soon be fond of and look back on with affection when they are men and women. Give them the best to start with.

The same thing is true in beginning a library for the boy or girl. It is just as easy to select books that are really good as it is to give the child cheap and second-rate stories with which to fill his mind. That does not imply that he should have books for grown-ups. It is simply a plea for "Little Men" and "Little Women;" for the stories of Frances Hodgson Burnett and Mary Mapes Dodge, instead of the lurid tales we often see in children's hands. Mark Twain's "The Prince and the Pauper" is as real to most of us to-day as when we were ten, and we can still sigh over the misfortunes of "Sara Crewe." Then there are all the fairy books, beginning with that of the Brothers Grimm, and many splendid stories about birds and animals, and, among the best of all, Lamb's "Tales from Shakespeare." Give your child a good library and he will want to read and will take pride in his own book-case in his own room.

Practical Hints for Pretty and Inexpensive Furnishings

For chairs, substantial ones of any sort will do, as all the furniture may be easily and inexpensively painted white for the girl's room, or stained dark brown for the boy; either of which gives an air of uniformity and neatness to the whole effect. A comfortable wicker chair is a joy for a child; and for the active and often destructive boy a heavy wooden rocker that will endure all things may be bought and, if necessary, stained to match.

The bureau should not be of ornate design, and should be supplied with plenty of drawer space, which will be conducive to tidiness. An old bureau of the carved yellow-oak style may very well be made over by removing the elaborate carving, taking off the high back, and hanging a mirror over it. Dull-finish the whole thing by rubbing down with powdered pumice and oil, see that knobs and handles are firmly fastened on, and there you have a surprisingly satisfactory store-house for rampant brushes and combs and underclothes. A chiffonier, if it is not too high, is a good substitute for a bureau, and the extra drawer space it gives will always be welcome. The wash-stand is usually a source of trouble, as it is so easily mussed up—and china is, alas! only too breakable. Try to get a plain but pretty set, with not too many pieces in it, and the child will take pride in keeping it neat and free from nicks. If you give mismated and broken china to start with, the result will be far from attractive. Better yet, enameled metal stands, with utensils to match, may now be had.

A desk or small table fitted out with writing materials is a source of joy to either boy or girl. A small kitchen table, stained, with a blotter to match the general color-scheme of the room and a simple glass ink-stand — these provide the wherewithal for the much-detested home work; and here is a good place to start the habit of concentration, in the quiet of the child's own room. Some inexpensive paper and envelopes will help greatly when Christmas and birthdays come around and "thank-you" letters have to be written to relatives and friends. Directly above the desk several bookshelves may be hung.

An addition to any child's room is what we call a "shirtwaist box"—that is, a box of medium size covered with chintz or denim. In it may be put blouses or shirts or other starched things without crushing them; or if the closet space is small, it may be a shoe box. In addition, it makes a convenient seat. Sometimes these boxes are used for window seats, but in case of rain there may be disastrous results, so a corner of the room will usually prove to be more satisfactory.

As to curtains, great care should be taken against their being heavy enough to shut out air. As the windows in the room should be open a large part of the time, the curtains should not be too substantial or too good. Simple muslin or dotted swiss are suitable, as these materials may be washed easily and often. If there is a plain paper, it is very attractive to have chintz hanging in straight lines at either side of the

window, so as not to cut off the light, and yet to give color to the room.

The Charm and Advantages of the Open Fire

Old houses frequently have fireplaces in the bed-rooms, often walled up, and there may happen to be one in the room which is given to the child. The question then arises as to whether it shall be opened up again, or left tightly sealed, with no chance of conflagrations. By all means, if it is possible, have it made into a regular open fireplace. One argument in its favor is that in case of illness an open fire is often invaluable. Then, too, it gives an air of cosiness and comfort to a room that otherwise might be draughty and chilly on damp days. Of course, the idea of danger comes at once to every mother's mind. It is, however, simple enough for her to make a few rules about when fires may be built and by whom. She may personally supervise them; and with a large wire spark-screen the children will be perfectly safe.

Special Features That May Be Introduced into the Boy's Room

The details that have been given so far would apply to either the small boy or girl, but as each grows older great changes in tastes and desires appear, and from that time on those changes are apparent in the character of the room itself. Usually one of the first things that becomes important to the boy is a great interest in athletics and all out-of-door sports. Punching-bags, dumbbells and Indian clubs come to be of vital interest, and of more importance to the boy than he himself realizes. A place for these things should be made in his room; let him make a small gymnasium of it if he wishes to—it will be extremely good for him. Wooden racks may be placed along one wall, where his apparatus may be hung, and space in the middle of the room, or at one end of it, may be devoted to the punching bag. Teach him to feel a sense of responsibility about smashing his own furniture and you will find that he will be careful of it.

What May Be Done to Utilize the Attic

In many houses there is a large room on the top floor that is half-filled with left-overs and cast-off odds and ends. If this is cleared and the floors and ceiling (if it is a beamed wooden one) are stained, it makes a splendid beginning for a boy's room, with more than enough space to stretch in. The only drawback is the matter of air, as most attic rooms have only small windows. These, however, may be enlarged, or another one may be cut, so that there is good ventilation constantly, as fresh air at night is most important for the growing child. With the addition of rag rugs, a divan with bright-colored pillows, and a gay screen to hide the wash-stand, it makes an excellent den, and it will prove a source of constant delight.

At some time in the boy's development comes the period of "hobbies"—that period when one phase of experiment or collection becomes an all-absorbing interest. Many parents scoff at what they consider freakish notions, or rebel at the collecting of what is "trash" from a grown-up viewpoint. It is the wise mother or father who sees in this the beginnings of some special bent or talent and who respects, at least, what ranks in importance in the child's mind with the parent's interest in golf or bridge. Some boys find electricity the most fascinating thing in life, and really accomplish wonders through their experiments. Instead of fearing the resulting "mess," let the boy use his room as a wireless station or a telephone headquarters for the neighborhood. He will get endless enjoyment out of it, and, aside from diversion, it is extremely good for him. A good instance of the joy and satisfaction in the cultivation of hobbies was shown by the mother of seven children who allowed her four sons to keep collections of any sort in their rooms, as long as they kept things tidy. One boy tacked red burlap on the walls, into which he pinned in turn, as his interests changed, butterflies, pennants, and leaves of various trees. Another brother made thick coverings for his three windows so that he might have a dark room for developing his photographs. A third boy had an electrical workshop and aquarium, and the fourth a museum for stamps, coins and shells. Those brothers are now grown men and they still look back with pleasure at the good times they had with their "hobbies" in their own rooms.

Individual Features Appropriate to the Girl's Room

As the girl grows older she becomes more fastidious and wants her room to be pretty, first of all. Often she longs for the extravagant dainty things that look simple but cost a great deal; and it is excellent discipline for her to learn to make her own little accessories. Have a soft gray or white paper with roses or other bright flowers on it, and buy chintz that will harmonize, out of which cushions for the chairs and curtains for the book-case may easily be made. Then, too, simple bureau-covers of white, with strips of flowered material, and a bed-spread

to match, are charming. If the girl is allowed to make her room as pretty as possible she will enjoy keeping it neat and fresh as a sort of little private home of her own.

The Sleeping Porch Is Beneficial to Children

As time goes on we are learning to realize more and more the value of fresh air as the best of tonics, and when a family lives in the country or in a suburb where such luxuries as porches exist, it is advisable to arrange for the children a place to sleep out-of-doors. Often the only thing that needs to be done is to add a screen, water-proof side-covering, and extra woollen bedding for the cold winter night. In some cases additions must be made to the porch or an entire new one built; but while it may seem like a large expense at the time, an ample payment is secured in return in the increased vitality of the children. In homes where the luxury of a sleeping porch is possible, the child's own room may be used as a study, play-room, and dressing room, and the bed itself may remain permanently out-of-doors.

Training Children in Personal Care of the Room

The question arises in most families, sooner or later, as to how much time the child himself shall spend in caring for his own room. Who shall tidy up the bureau-drawers that constantly need to be inspected? Who shall put toys and books in order? The best way is to have the child spend at least two hours a week, usually Saturday mornings, in "straightening up." As soon as he realizes that it is inevitable, he will probably learn the labor-saving device of habitual tidiness—which is a blessing. Boys as well as girls need this discipline, for, as the good old maxim tells us, "For everything you throw on the floor, somebody's back must bend."

The Child's Room Shared with Other Children as a Gathering-Place

Another problem that invariably faces the mother is: Shall we allow the children to bring in a crowd to play in the afternoons? And shall we let them make havoc and play to their hearts' content? One of the greatest joys in having a home is the possibility of asking others to come in and enjoy it with you, and even children realize that. On rainy days, instead of playing alone, the thought of asking your "intimate friends" to come home from school with you, sure that you can play all the afternoon undisturbed in your own room, is one of the joys of childhood. Some children love to act out stories and give original plays, turning the room into a theatre that will seat admiring parents and friends; often dolls' tea-parties may be held, or Wild West shows and circuses; and many a grown-up looks back with intense pleasure to those good times. Then there is the "Club"—children always have "Clubs," and the child's room is a most fitting place for the meetings. With the door shut, the rest of the household need not be disturbed and the orderliness that delights the heart of the mother of the family will be maintained. But one rule must be strictly enforced: before the crowd disperses the children must help clean up the room; otherwise, the poor little host or hostess will be left to do the mighty task alone. If the guests are made to understand the situation they will do their share. Children always appreciate the hospitality of older people and it is surely a pleasure to most parents to know that other boys and girls have a good time playing in their homes.

The Child's Room Affords a Welcome and Proper Seclusion

One of the main sources of enjoyment that comes to a child from his own room is the knowledge that there, at least, he may manage things according to his own tastes. There is a delightful sense of proprietorship that makes him realize that no one will throw away his prized possessions or tamper with them. Often older people do not respect the privacy of the child's room and use it to sew or to write in, and so the child loses the complete ownership that means so much to him. More than that, in a large family it is infinitely soothing to be able to get away and do one's home work or put one's dolls to bed quietly and alone. If these lulls in the rush of everyday life were more frequent many a temper and nervous system would be improved, though the child himself is entirely unconscious of strain.

FURNISHING THE HOME

BY

MARY ELIZABETH CARTER

In furnishing a house, almost as much depends upon the good taste and judgment exercised as upon the amount of money expended. Usefulness and beauty should go hand in hand, as far as possible, in making selections. But the useful should always lead the way. One thing to be studiously avoided is *overfurnishing*. No matter how ample the purse, the ruling idea should be to furnish with the fewest articles that are not absolutely of some use, and to shun crowding things—things that occupy space without making adequate return for so doing. A room encumbered with furniture and ornaments is inelegant—far from pleasing and a weariness to the eye that enjoys refined furnishing, which can only be reached by the observance of the eternal fitness of things. First, then, make usefulness the paramount point, and always as much beauty as is consistent with use. Last of all comes the ornamental, which, if wisely chosen, may be also useful in its own way because serving a purpose, since whatever brightens life or cheers the work-a-day toilers is useful.

The Household Tool-Box—Keeping down the Cost of "Odd Jobs"

Among immediately necessary and strictly useful purchases is a box of household tools. The woman who can handle a hammer, a screwdriver, and a gimlet expertly will often be independent of a skilled carpenter or an upholsterer, when another person similarly situated, but unaccustomed to these tools, would be helpless—compelled to wait and wait the pleasure and the leisure of a mechanic for trifling jobs to be done and then pay and pay, in inverse ratio to the character of the work tardily accomplished, as well as the time taken to do it. Hiring small jobs done at odd times makes surprising inroads upon a family purse. If one is entirely dependent upon mechanics for everything done requiring their tools, the best way to keep the cost down to reasonable figures is to make a full list of what you expect done and give it to the man or his boss *in advance* of the day when he is to come. Then he can come prepared with all that the work may require in the way of tools and other necessaries. Everybody knows the facility with which mechanics lengthen a bill if they have to go after anything that is not ready to their hands. They never rupture any blood vessels by undue haste when upon those errands.

The Fastidious Mechanics and the Axminster Carpet

The household tool-box should be accompanied by the stepladders, a few kitchen chairs, and other things for the use of the cleansers. The furniture can be selected as early as you choose, but with the understanding that the dealers hold it subject to your orders. The cleaner the house is before any furniture is permitted to arrive, the better for the furniture and for the housewife's peace of mind. As circumstances alter cases and requirements, so, if anyone is to live in the house before it is ready, a room must immediately be thoroughly cleaned and made comfortable for the expected occupant. If it can be one of the top-floor rooms so much the better for the order of the work as well as for the room itself. However, it should be locked all the time in order to keep it nice; for it is very difficult to prevent some misappropriation through the ignorance or carelessness of irresponsible persons. As the superintendent cannot be ubiquitous, the only safeguard against a possible invasion of a place already cleaned and furnished is the lock and key. In familiar words: "Safe leave, safe find." But in selecting a room to be thus made ready, be wise and beware that you do not choose one that a mechanic has yet to enter for work of any sort, else all your cleaning and putting in order will be made null and void. None but those who have learned through trying experiences can do justice to this special setback in house-settling. I once found that the mechanics at work in a house—that had, supposedly, been prepared and shielded against their expected presence and vandalism—had chosen the handsomest bedchamber for their lunching-place. Without plates or napkins they sat upon a costly Axminster carpet to eat and to drink. Doubtless they found the heavy velvet pile entirely comfortable. This is just one little experience of that sort among countless others of a similar nature closely related to our subject.

Selection Is Difficult, Purchase Is Easy

"Go slow, little boy," is a good motto for those who are furnishing a home and want to do the

very best with a fixed sum of money. Bear in mind that after you find and decide upon what you will get, buying is comparatively easy. The distinction between shopping—going from shop to shop, looking for what you want—and ordering after you have found the right thing, is immense. The one is tedious and wearisome in the extreme, the other quite the opposite. You will always find people ready to hasten your spending, but there are few who are capable of advising or assisting one to a wise selection among many desirable articles. There is nothing like a carefully-prepared notebook, with lists and prices of articles to be purchased set down in black-and-white for constant reference. It will prove a safeguard against sudden and regrettable decisions that cannot be revoked, or, if revoked, cost loss of time, and money, too, sometimes.

When the mind is very full of crowding thoughts the memory is likely to become less trustworthy; therefore, as you go about, keep careful memoranda—on blank pages left for that purpose between your lists—of whatever you are likely to buy and of all that you do decide upon. Independent pages should be devoted to each room and to every quarter of your house exclusive of every other portion—conspicuous on every page the amount to be laid out for the things there listed.

Always Have an Eye to the Cost

If you want to enjoy and be restfully happy in the new home hold expenses within bounds, no matter what tempting things may entice you to go beyond your means, or how obliging the shopkeepers may show themselves about "giving credit." Remember that if you buy in haste you will have to repent at your leisure. Get only the indispensables at first, then you will have strength, time, and cash for getting extras later, and by degrees, as you deem them requisite for the comfort and pleasure of the household.

Even if the purse permits, it is wiser not to buy lavishly at the beginning. If all but necessaries are left until you are living in the house your furnishing will be characterized by greater individuality, and you will be led to choose and get what will be suitable to your house and your needs and therefore satisfy longer. Houses thus furnished are the most attractive because they express something above and beyond the cabinet-makers' work. It is the same difference that exists between a library where all the books have been bought at once, according to the bookseller's catalogue, and the library that has been slowly accumulated by a lover of books. There is a psychic quality and charm inexpressible, but felt, in the house that has been slowly furnished, and the library of the student and book-lover is entirely foreign to the others.

The drawing-room or parlor is least of all in importance and can easily be furnished at any later date. If left until last of all, it gives a good-sized room, convenient to the front door, for receiving goods that have to be unpacked, and spares other portions of the house. It will prove also a fine storing place for anything arriving before its appointed time.

Details of Importance in Connection with Sleeping Arrangements

Since good sleep and good food are all-important to the physical being, and most of us are very dependent upon these for health and amiability, the need cannot be ignored with impunity. Therefore, everything pertaining to the sleeping arrangements — bedsteads, mattresses, pillows, blankets, quilts, and the bed-linen—come under the head of early and very necessary furnishings.

The kitchen appointments are equally important. We all realize how very much the peace and comfort of a family depend upon comfortably-served, well-prepared meals. These may be assured along with simplicity and moderate expense, but the housekeeping allowance must be in proportion to the demands of the family, and the housewife capable and unhampered in her management.

In selecting bedsteads, mattresses, and pillows, those best in quality are the most economical in the end and always the most comfortable. Blankets and quilts should be chosen for lightness and warmth; heavy bedclothes are exhausting and partially undo the benefit to be gained by sleep, and they are also objectionable because they are really not so warm as good blankets.

In these days of ever-improving household hygiene, single beds are becoming the rule for old and young alike. This wholesome practice commends itself, on every account, to all thoughtful people. Where two are obliged to occupy one bedchamber each one will be much more comfortable, and less likely to disturb the other, when they sleep in separate beds. Above all, *young* people and *infants* should never sleep with older persons, or those who are strong and well with sickly or ailing ones. The loss of vitality to the young or well ones is altogether too serious to be ignored. Carelessness in these matters propagates disease and is therefore unpardonable except in those who sin through ignorance.

Single beds or spring-cots are in every way more desirable than double bedsteads, however

handsome they may be. If the double bedstead effect be preferred it may be had with two single beds. They come made with their head and foot boards shaped to simulate one bedstead when they are placed side by side.

The Many Advantages of Screens

Every double room should be provided with a couple of portable screens for the convenience and partial privacy of both occupants. Screens are advantageous in very many ways, but during illness or even a slight indisposition they are indispensable. Through a skillful adjustment of screens the ailing one may be protected from a trying glare of light or from draughts, and may also have a sense of privacy impossible without them. At the same time persons who may be compelled to occupy that room need not be subjected to the annoyance of semi-darkness or insufficient air. Of course, everything that can be done to ameliorate an invalid's condition should be done, but, at the same time, healthy people are entitled to an opportunity to preserve their vigor; and that is impossible in a dark room or a close atmosphere. It is well also to remember that darkness and poor ventilation retard, even prevent, recovery of health. All the weight of argument is in favor of screens and not one in opposition is worthy of attention. Even those who feel the necessity for close economy, by exercising a little ingenuity may have home-made screens. A clothes-horse may be covered with cheap washable goods—cretonne, silkaline, denim, or cheese-cloth answer as coverings, and are easily put on and off.

The Trunk-Stand and Other Conveniences

These are days of incessant traveling, packing, and unpacking. An inexpensive article that subtracts largely from the fatigue of packing is a strong, low stand upon which the trunk or box to be packed is placed. This enables the packer to stand erect while doing the work. The stand may be as ornamental as a hall wood-box, if economy of space be a necessity. Then it will serve other purposes when not needed for packing. It can be made of hardwood, polished—and have the top protected with strong paper when it is to support a trunk—or it may be of stained or painted wood and made in the house at a very small cost. It should be just high enough to bring the trunk, when placed upon it, to a line preventing any necessity for the packer's stooping. A cast-iron back, with a hinge in it, is as necessary to one who packs a trunk that stands upon the floor as it seemed to the author of "My Summer in a Garden" (Charles Dudley Warner) during his planting and weeding experiences. The trunk-stand, like many other inexpensive conveniences, recommends itself because it affords immunity from great fatigue to all who use it. As a rule costly articles do not contribute to the comfort of a family; on the contrary, they are often burdensome, work-making and useless. Simple, labor-saving things affording the greatest good to the greatest number should be sought after and secured in one's general house furnishing.

Durability and Lightness to Be Sought in Furniture

When selecting any furniture the first considerations should be durability combined with lightness and the absence of dust-harbors. A housewife who cannot command the services of a retinue of strong servants should never be tempted to buy any stuffed or carved furniture. Carved furniture is difficult to dust and takes an unusual amount of time, if kept clean. Unless stuffed furniture is often lifted into the open air and there well beaten it is impossible to prevent it from accumulating dust, and that little *bête noir* of every careful housekeeper, the moth, is hard to banish if once it gets into stuffed furniture. There is little rest or peace for one who must perpetually contend with dust and moth when once either or both get established in furniture. But with furniture of polished hardwood, simply constructed, there need be no anxiety and the work of dusting is minimized while it may be thoroughly done. If preferred, or desired for variety, beautiful wicker furniture may be kept perfectly clean because it may be washed. Pillows and separate sofa cushions are easily aired and beaten outside without undue labor, and therefore better for the general health of a household than any undetachable appointments. Couches and sofas that any tyro can put together nicely and take apart easily are sensible, comfortable, and cleanly.

A Few Words about Lounges and Couches

For all ordinary purposes a low spring cot may be converted into an inviting lounge. It requires only a mattress firmly tied on with strong tapes, sewed at the corners and also all around at intervals—tapes enough to insure its immovability. There should also be a valance of the same material as the cover, likewise tied on. The mattress should be a little larger than the cot; then, when it is covered, it will hide all the metal of the cot. Everything should be made absolutely secure; the mattress itself so firmly tied there can be no possibility of an untidy ap-

pearance after anyone has been sitting or lying down upon it.

The valance may be fastened to the mattress with large hooks and eyes. Whichever plan is preferred the valance should be cut deep enough to admit of its passing well in under the mattress to hide every sign of its fastenings. A couch of this sort, pushed into a corner, and piled with cushions along the back and at the head, is comfortable and inexpensive. That it is home-made is no reason why it should be either ugly or untidy-looking. On the contrary, there is an opportunity for indulging one's taste and individuality as well as exercising inventive genius. A capable family of ideas can improve upon these suggestions. The people who dare to experiment upon bright, new ideas, are our inventors, our artists, and our geniuses. Their houses are full of home-made interesting things.

Every bedchamber large enough to hold both should have a couch as well as a bed. A couch tends to preserve the order of a bedroom in the daytime when a siesta is taken. The advantage of having a couch for that purpose is obvious because it leaves the bed undisturbed. Those who take pride in having their rooms always orderly know that a bed slightly out of order mars the entire appearance of any room, however faultless it may be in every other respect. Lying down upon the outside of a bed soon soils the coverlet. But if one is obliged to use a bed for a short rest, the coverlet may be protected by having always at hand a light spread of some sort, or even a sheet, to lay upon the spread during a daytime sleep. It may be kept folded under the pillow when not in use. Another advantage about this is that it prevents increased laundry work, whereas many white bedspreads add to the heaviest portion of that work.

Window-Shades and Window-Hangings

Unless a house is to be supplied with two sets of window-shades, light-colored ones for winter and dark for summer use, it is wiser for all-the-year-round service to have them of dark green holland, because they protect the interior from the sun in hot weather and make an agreeable shade. In cool weather, when a house requires all the sunlight possible, the green shades can be rolled up to the top all day, as ordinary sash curtains and window hangings afford sufficient privacy during sunlit hours, and after the house is lighted in the evening the dark shades will answer all purposes of shielding those inside from outside gazers.

Sash curtains of some washable goods requiring no starch wear longer and are prettier than anything that must be stiffened and therefore would need frequent laundering of the most troublesome kind. Plain white scrim, hemmed, makes durable and pretty sash curtains. Fine cream-white cheese-cloth is cheaper, very dainty-looking, and also wears well. After serving a reasonable time as curtains it can be turned into dusters, straining cloths, and window-polishers. Window-hangings that exclude the light in cool weather are objectionable. Better have none at all than those that make gloomy rooms. Heavy stuff window-hangings are neither artistic, healthful, nor pleasant. They gather dust and, if of wool, harbor the earliest moths. Spotless window hangings of some sheer and inexpensive material are more satisfactory to a dainty but busy housewife. They add to the attractiveness of a room and screen the interior sufficiently, while admitting light and air. The way in which windows are dressed always manifests the good taste of the one responsible for their hangings.

Strict Neatness Is the Truest Economy

In all house-furnishing a lover of absolute neatness never selects anything "because it will not show dirt." On the contrary, the preference will always be given to things that do show when they need cleaning. Then it will not be overlooked, nor will anything be allowed to get very dirty. Assuredly this makes a nice use of things imperative, but that should be a part of everybody's education; when not learned early in life, it is yet never too late to mend uncleanly or careless ways. Carpets, rugs, and all floor coverings that show every little speck are the most sanitary of all; if for no other reason they should be chosen because the cleaner the house the more wholesome it will be, and nothing can excuse the fact of hidden dirt, which always in time invites or breeds disease. It costs a little more vigilance and faithful daily cleaning to keep a house thus furnished *looking* clean, but it costs less in the long run than where dirt becomes established because invisible. Visible or invisible, it is dirt all the same. Seen or unseen, it is the indirect cause of visible doctor's and drug bills that nobody enjoys seeing or paying. Immaculate neatness is the truest economy and preserves the household goods for a longer time. It is not use and cleaning (as some would have us believe) that wear things out, but abuse, and soil ingrained, make them useless, worthless, and offensive.

Desks and Books Should Be Freely Provided

Everyone, old and young, who can write should possess a desk. Desks are so useful and

so inexpensive that there is no excuse for not providing each room with one. Desks promote orderly habits, for where each member of a household has one under lock and key, the probability is that individual belongings in the writing line will be kept in better order than they could be without the desk conveniences. Those who are not accustomed to the boundaries of a desk are likely to acquire careless ways, just for lack of a suitable place for their stationery and general correspondence. The school boy and girl early accustomed to a private desk, with a trash basket under or beside it, will hardly need to be told to use both, the advantage to themselves will be so obvious. Besides the desk every room should have some arrangement for holding books—a small bookcase, a revolving stand, or a hanging set of shelves. Wherever it is possible, the books should be inclosed or have curtains sliding on rods to protect them. Dusty books are vexatious and soon grow shabby. A little, inexpensive, ornamental feather-duster always hanging beside the shelves is the most desirable and only suitable thing for removing dust from books, because it will not deface them. Feather-dusters, as a rule, are objectionable anywhere about a house because so few people seem to know how and when they should be used. For general dusting they are worse than useless; like many serviceable articles, they may be made nuisances by misuse; but every house needs one very large feather-duster with a long handle for cornices and pictures hanging too high to be reached with a cloth. And this duster needs washing regularly and drying in the open air, if it is to serve its purpose and not become a dust disseminator.

Individual taste and notions will, of necessity, rule all house-furnishing. The only thing one can do for others is to touch upon general and salient points and make suggestions, with the hope of reaching and helping any who are on the lookout for hints upon the subject.

Supplementary Meditations on the Simplification of Life

Apropos of the "overfurnishing" to which Mrs. Carter refers in the first paragraph of her article, the Editors have deemed this a suitable place to introduce the following extract from Edward Carpenter's thoughtful and stimulating essay, "Simplification of Life."

No doubt (says Carpenter) immense simplifications of our daily life are possible; but this does not seem to be a matter which has been much studied. Rather, hitherto, the tendency has been all the other way, and every additional ornament on the mantelpiece has been regarded as an acquisition, and not as a nuisance; though one doesn't see any reason, in the nature of things, why it should be regarded as one more than the other. It cannot be too often remembered that every additional object in a house requires additional dusting, cleaning, repairing; and lucky are you if its requirements stop there. When you abandon a wholesome tile or stone floor for a Turkey carpet, you are setting out on a voyage of which you cannot see the end. The Turkey carpet makes the old furniture look uncomfortable, and calls for stuffed couches and armchairs; the couches and armchairs demand a walnut-wood table; the walnut-wood table requires polishing, and the polish-bottles require shelves. The couches and armchairs have casters and springs, which give way and want mending; they have damask seats, which fade and must be covered; the chintz covers require washing, and when washed they call for antimacassars to keep them clean. The antimacassars require wool, and the wool requires knitting-needles, and the knitting-needles require a box, the box demands a side-table to stand on, and the side-table involves more covers and casters—and so we go on. Meanwhile the carpet wears out and has to be supplemented by bits of drugget, or eked out with oilcloth, and, beside the daily toil required to keep this mass of rubbish in order, we have every week or month, instead of the pleasant cleaning-day of old time, a terrible domestic convulsion and *bouleversement* of the household.

Superficial Reforms Avail Nothing without the Desire for Simplicity

It is said by those who have traveled in Arabia that the reason why there are so many religious enthusiasts in that country, is that in the extreme simplicity of the life and uniformity of the landscape there, *heaven*—in the form of the intense blue sky—seems close upon one. One may almost see God. But we moderns guard ourselves effectually against this danger. For beside the smoke pall which covers our towns, we raise in each household such a dust of trivialities that our attention is fairly absorbed, and if this screen subsides for a moment we are sure to have the daily paper held up before our eyes—so that if a chariot of fire were sent to fetch us, ten to one we should not see it.

However, if this multiplying of the complexity of life is really grateful to some people, one cannot quarrel with them for pursuing it; and to many it appears to be so. When a sewing-

machine is introduced into a household the simple-minded husband thinks that, as it works ten times as quick as the hand, there will now be only a tenth part of the time spent by his wife and daughter in sewing that there was before. But he is ignorant of human nature. To his surprise he finds that there is *no* difference in the time. The difference is in the plaits and flounces—they put ten times as many on their dresses. Thus we see how little *external* reforms avail. If the *desire* for simplicity is not really present, no labor-saving appliances will make life simpler.

What Stain and Varnish Will Accomplish at Little Expense

Talking about floors, it seems a good plan in upper chambers, and rooms where floors are boarded, to stain and varnish them. This is not expensive, but it takes a little time—two or three days altogether for the different washes to dry; first the stain, then a wash of size, *i.e.*, diluted glue, and then the oak or other varnish. The advantage of varnished floors is that they do not require scrubbing, which is a very laborious process, but only to be rubbed over with a wet cloth. One or two rugs, or bits of carpet, are all that is needed for a covering, and these can be easily taken up and shaken, and the room swept at the weekly cleaning. A carpet over the whole floor not only smells badly, and makes the air of the room permanently stuffy, but, being difficult to remove, it remains down for months at a time, and harbors all sorts of dirt. Varnished floors, however, will not stand heavy work, as in a living-room or kitchen, where thick boots are in and out all day; and here stone or tile floors, with cocoa-nut or other matting if a covering is wanted, always seem to me the most appropriate.

The Studied Effort toward Elegance Ends in Disappointment

The rest of the furniture takes its cue very much from the treatment of the floor. As a rule, all curtains, hangings, cloths, and covers, which are not absolutely necessary, should be dispensed with. They all create dust and stuffiness, and all entail trouble and recurring expense, and they all tempt the housekeeper to keep out the air and sunlight—two things of the first and most vital importance. I like a room which looks at its best when the sun streams into it through wide-open windows and doors. If the furnishing of it cannot stand this test—if it looks uncomfortable under the operation—you may be sure there is something unwholesome about it. As to the question of elegance or adornment, that may safely be left to itself. The studied effort to make interiors elegant has only ended—in what we see. After all, if things are *in their place* they will always look well. What, by common consent, is more graceful than a ship—the sails, the spars, the rigging, the lines of the hull? Yet go on board and you will scarcely find one thing placed there for the purpose of adornment. An imperious necessity rules everything; this rope *could* have no other place than it has, nor could be less thick or thicker than it is; and it is, in fact, this necessity which makes the ship beautiful. Everything in it *has relation*—has relation to the winds and waves, or to something else on board, and is there for purposes beyond its own existence. Or again, after you have been the round of æsthetically-furnished mansions, and seen all that taste and wealth can do in this direction, does it not happen to you at last to turn by chance into some old-fashioned cottage by the wayside, and find that, for pure grace and beauty, this interior, without the least effort or intention whatever, has beaten all the rest hollow? Yet, with the exception, perhaps, of a few plants in the window, everything here is for use. The eye rests on nothing but what suggests a train of thought. Here is the axe hanging, there the gun; here, over the dresser, a row of plates; there the kettle boiling on the fire; and there, behind the door, the straw hat which the rosy-cheeked girl puts on when she runs out to look to the fowls. Everything is alive, and transparent, too, with cleanly human life. But your modern drawing-room is dead—a stupor comes over the mind as it gazes at the aimless armchairs, and the room seems full of lumber. You cannot *make* your room beautiful by buying an expensive vase and putting it on the mantel-shelf; but if you live an honest life in it, it will *grow* beautiful in proportion as it comes to answer to the wants of such a life.

The Treatment of Walls Calls for Much Care

The treatment of walls is a somewhat vexed question. Some people prefer paper, while others prefer a color-wash or paint. On the whole there always seems to me something incongruous and even trivial in the idea of *papering* stone and plaster. Color-washes are clean and sweet; they are made of whitening with a little size (or flour and water) mixed to prevent rubbing off, and coloring matter according to choice. They are, of course, quite inexpensive, and can be renewed every two or three years. Paint has the advantage of being very durable and of being

washable, but it has the drawback of being more laborious and costly in operation, and, of course, renders a room uninhabitable for a week or two till it is thoroughly dry. In fact, care should be taken with regard to this last point. On the whole, I think papering is the least trouble, color-washing the least expensive in materials, and painting perhaps the most satisfactory in the long run. If, however, a room is really well plastered to begin with (which does not often happen nowadays), one may very well dispense with all three methods; and that is perhaps after all the most obvious thing to do. [From the volume "England's Ideal"; third edition.]

THE HOME PLAYROOM

BY

THE EDITORIAL BOARD

"My ideal of a home," said Ralph Waldo Emerson once, "is a house in which each member of the family can, on the instant, kindle a fire in his own private room." Our genial philosopher's meaning, as we take it, was that a perfect home has for each of its inmates two elements: possession and cheerfulness. These are the essentials of the home playroom. Children must have a place of their own, and this place must be a cheerful and adequate one.

The Child's Right to Express His Own Sense of Beauty

It does not take money to furnish a pleasant and adequate home playroom. One essential is that the place for play should be damage-proof. There is certainly some room in even the most modest home in which it is safe to do anything that is not in itself dangerous, without being interrupted by the word "don't." We have said that such a room should be cheerful. Of course, every room in the house ought to be cheerful; but if there is one place where bright, flowered wall-paper, plenty of light, and growing plants should be found, it is the room in which children spend most of their time when at home If the playroom is really to be the child's own, he should have a right there to express something of his own sense of beauty. It may seem to the parent that the pennants and gay-colored posters which he finds there are not beautiful, but they represent a striving toward beauty, crude and imitative though it be. To give the child a rare and beautiful picture will tend, when that picture is placed, to mitigate the lack of taste which may already have been expressed on the wall. It is a good idea to teach children that picture-frames are not sacred; they will enjoy occasionally the novelty of putting a new picture in an old frame and thus adding a new friend to an old room.

The window-seat may be made one of the pleasantest spots in the room. Not only may it be filled with growing plants, but even a potato or carrot, partly immersed in a glass of water and growing, is an attractive and unexpectedly beautiful sight. An aquarium with gold-fish adds interest of still another sort.

Simple Apparatus for the Playroom

For a baby, one essential of the playroom furnishing is the pen. Suitable pens, called baby yards, can be bought or made for about three dollars. For young children, a sand tray is as essential as the pen to the baby. The fact that sand is plastic to the hand and that it takes any form the child imagines for it seems to make it an almost universal plaything. It is a means of bringing outdoors indoors and forms a background for all sorts of attractive activity. A good, strong, wooden packing box, cut down to one-third the original height, planed and sand-papered on the outside until it is smooth, and then painted a color harmonizing with the room, is all that is necessary. If it is planned to hold water, it may be lined with zinc by a tinsmith. In order to give it proper height, short legs may be added, and that it may be movable, casters may be inserted at each corner. A square of denim to catch the stray sand that is spilled is all that is needed for protection. A small tin tray placed on the child's low work-table is sufficient for his first modeling.

In Defense of Mud-Pies

Why is it that parents are so reluctant to allow children to play in water? They certainly have a primeval instinct for it; and if the water is tepid, it is not unsafe. It is not difficult to protect the floor and the child, so that such play is possible. Even a dish-pan is a satisfaction to a small child, so long as he may sail walnut-shells therein or fish with a string and magnet. A third

furnishing for the playroom is that combination of sand and water—mud. A kind word ought to be spoken of the good old sport of making mud-pies. Let us appeal for a little indoor play with mud. When the day is rainy and long, a little well-washed mud may be brought in and put on the kitchen table or floor to give delightful sport to the well-aproned youngster.

A small slide or see-saw is a source of eternal delight for the young child. Youngsters who take a strange delight in toddling along a narrow surface will find much satisfaction in a 2x4 plank laid along the nursery floor, or squares of planking set like stepping stones a short distance from each other.

Larger and Simpler Playthings Preferred by Children

Much childish mischief is due to the fact that the child, not having any play material of his own, uses ours. Frankly, many things which are the mother's, which she does not need to use, would make the very best of playthings for the children. Students of childhood have been surprised to learn that young children prefer large playthings to small ones. They rush for the coal-hod, the waste-basket, and the work-box, leaving their own beautifully-shaped and colored toys forgotten. Let us learn to take the hint. Cookery molds and other tin implements used in the sand box or for making a noise give tireless satisfaction. No toy-maker manufactures blocks big enough for children. If father will go to the carpenter's shop and get some brick-shaped blocks six by three inches and an inch in width, with a few longer ones for use as floors in construction, and a few small ones three by three inches, of some odd shapes, he will give his offspring material for constructive activity for many months.

Much of the didactic apparatus of Madame Montessori can be made at home. The home piece-bag is better than her beautiful carved cabinet with drawers full of graded silks. Her sandpaper letters can be easily made by any mother. The home itself furnishes countless opportunities for the natural training of the senses in learning to distinguish between things that are hard and soft, rough and smooth, heavy and light, long and short, etc.

If members of a city family are so fortunate as to go to the country in the summer, they may bring back in the fall a "playthings trunk," which will contain treasures for the entire winter. Twigs and mosses will make charming little landscapes for the sand-table. Shells will be turned into beads and made into swinging portières, work-boxes, and "faces" for cardboard dolls. Cones, burrs, seeds, pebbles—the list is inexhaustible.

Imagination Colors Most of a Child's Play —Simpler Playthings Preferred

So the home itself is already furnished with articles which, to the child's imagination, are materials for play. The majority of the child's play is imaginative; that is, it consists in turning something into something else. A chair suggests to the adult only the idea of rest, but to the little child it may be a bureau to put things on; turned upside down it becomes a horse; turned in another direction it is a street-car, and so on. A piece of board with a spool under it is a table, a box is a bath-tub, and a ribbon is a river.

The older and simpler store-bought playthings are the best. In an elaborate study of games, Croswell discovered that checkers and dominoes are the only things actually played by children in large numbers. Why, then, do we worry about purchasing so many of the highly-colored new games that are not nearly as good as the old? So paints, colored crayons, modeling clay or plasticine, blunt scissors, plenty of paper for folding and cutting, will give the child more opportunity for consecutive occupation than a lot of counter-bought toys. If we must go to a toy-store, let us first purchase there those elementary toys: soft balls, a box of blocks, a railroad train.

No single plaything will give more lasting pleasure in the playroom than the blackboard. It is the biggest and most simple article for picture making. A cheap surface of cloth, mounted on rollers, may be bought for $1.50.

Other Accessories and Uses of the Playroom

It may seem strange to suggest a typewriter as a toy, but some of those mothers who have made themselves famous by bringing their children forward with unusual rapidity have found that it is the best of all methods for teaching the child to spell and write correctly. In these days of inexpensive second-hand machines, perhaps the typewriter should be added to the list of most desirable playthings for the nursery.

In a room chiefly intended for older children, a plea ought to be made for a table with a big, broad top. They like spaciousness when they are working or writing. They want to have all their materials and books of reference in sight at once. The youth who has such a surface, over which he may throw a cloth when he wishes to save and protect his work, is not likely to make trouble for mother by littering up the floor.

Besides the articles for regular use there should also be a special treasure house, a cupboard or closet containing playthings for special occasions and times when everybody's temper is short. Here the mother will keep her stores of pencils, sheets of wrapping-paper cut in suitable sizes and pressed smooth, her pasteboard, buttons, spools, chalks, tin, cardboard and wooden boxes, her ends of string, tinfoil, picture magazines, catalogs—anything and everything, in fact, which will serve as fuel for the great play engine. One essential for the playroom is that all the playthings should be accessible. There should be low shelves, bins, and boxes for each child, so that the playthings may be easy to get at and also easy to put away.

The playroom may be used sometimes as a place for extending hospitality. Strange children are often shy in our house, no matter how hard we try to be pleasant. There is instant relaxation when the stranger is allowed to go upstairs into the child's playroom. It is not a bad idea to allow the children to take up a simple meal or treat upon a tray and serve it in the seclusion of their own room to their young friends. Another use of the playroom is for rest. It is good if the playroom has a couch or hammock swung from one corner to another. A screened corner or alcove is excellent for purposes of seclusion.

The Mother Is the Most Precious Thing in the Playroom

Since being a good playmate is in reality a skilled profession, no one, certainly no servant, in the house is so well equipped to practice it as the mother. The wisdom and beauty of what Dean Hodges says in this connection will be fully apparent: "For privileged children their mother is the heart of all the joy of life. She knows a thousand games, and is deeply interested in several others in which she does not personally play, such as baseball and football—wants to know what the score is, often sits in the sun on the benches among the spectators. She is the good angel of the domestic theater, reads plays in manuscript, and goes to all the shows; she makes the sun shine when it rains. It is a principle with her that the children shall believe that there is no place like their own home, no such opportunity to have fun as under their roof with the help of their mother. For her the most important room in the house is not the kitchen, nor even the parlor, but the merry chamber which is the terminus of railways, scene of building operations, public library, gymnasium, parade ground of infantry and cavalry, and battlefield of contending armies. To be a mother is her high and splendid vocation, the most ancient and honorable and influential of all professions."

THE HOME PLAYGROUND

BY

JOSEPH LEE

THE home playground I have in mind is a piazza 36 feet long and 11 feet wide, on the roof of an L, behind a city home. It has a brick wall 3 feet high on one side, and on the other a green fence, with the pickets too near together for a boy to get his toes between, and surmounted by a chicken wire. The piazza opens by a French window from a small room next the parlor, and I think it particularly fortunate that there is neither an ordinary window to bump your hat in, nor a flight of steps to render the transportation of velocipedes and rocking horses difficult—nothing, in fact, but a sill to step over.

A Caution to Mothers about Clothes-Basket Psychology

Most home playgrounds, perhaps, would be backyards rather than piazzas; but I think much the same treatment can be used in both, though, of course, clothes drying may interfere somewhat with their more serious and important uses in the case of the backyards. The use of this particular home playground (or rather of its predecessor, which was much like it) began with a baby in a clothes-basket; and perhaps I might be permitted to linger a moment over the subject of clothes-basket psychology. It is a curious fact, and one that seems to be received with difficulty by most mothers, that babies do sometimes *need rest*—that they do not always want to be chirked and chucked and tossed and worried and made to cultivate habits of observation; there are times when the cry on being let alone is a cry of relief, the first symptom of getting down to normal bearings. Children need, sometimes, as grown people need, to follow the ad-

vice of Dr. James Jackson, one of America's first and wisest physicians—first to lie down until they feel tired, and then keep on until they feel rested. Still, the letting alone process should not be carried to fanatical extremes. When a baby gets her head through the bars of the crib, it is perfectly permissible to interfere before she strangles. Of course, also, at this clothes-basket age, children need the appreciation, and indeed the whole repertoire, of mother play, with its hundred forms of reciprocity.

The Beginnings of Purposeful Play—Rattles—Worsted Balls

Also, very soon after the purely motion plays of kicking his legs and flourishing his arms and talking, there comes purposeful play. I think there is no more interesting thing in life than to see a baby find its hands for the first time. Certainly there is no greater epoch than that which he is then going through. Just think what it means! Those white clouds out there that he has long seen shifting and wavering about, moving in all sorts of fantastic lines across the sky—those strange, fleeting, intermittent phenomena—seem somehow to be connected with this sort of grunting and kicking power that he is himself inside of. There is a connection between the movement inside and the motion of the heavenly bodies, and he seems somehow to have hold of the steering gear. It is the first experience, beyond the comparatively indefinite one of hearing his own voice, in producing outward appreciable results, of being a cause. From that time forward this being a cause would be the center of his keenest interest. "The rattle of Archimedes," Aristotle says, "is good for children of this age." The rattle was perhaps the greatest discovery of that great scientist of the ancient world. Its advantage over an ordinary stick or spoon is that it attests the reality of results produced not only to the eye, but to the ear. There is nothing else, except possibly his little sister's hair, that combines these elements of satisfactoriness to the same degree. Not until he buys an automobile and so can make his record also on the sense of smell will he achieve a more inclusive satisfaction.

And Froebel was right when he said that soft, bright worsted balls were good playthings for this age. They are nice to grab; they are remunerative to look at. And they are better measures of the universe than most other things. The world, that is to say, is more reasonable when its contents are classified as round and not round, than when you try to arrange them as hair-pins and not hair-pins. So the physical impulses to grasp and wield find their best satisfaction when the desires for realistic achievement and for cultivating mental grasp are also satisfied.

Therefore, besides a chance to be let alone and a chance (when it is not too cold) to flourish his arms and kick his legs, the child of the clothes-basket age needs a mother, a rattle, a ball, and a few other of the more primary playthings.

The Child's Pen—Not to Write with, but to Live in

We now come to the earliest walking, but as yet not too obstreperous, age—say from one-and-a-half to six. (Of course, these ages overlap and, of course, they are not ages by the calendar, but by the stage of development—what has lately been called the physiological age, based upon something of the same idea as was conveyed by John Boyle O'Reilly when he said that life is not measured by years, but by heart beats.) At this time of life I think the most useful adjunct of the baby's existence is a pen—not to write with, but to live in. Certainly in my own experience I have found that the pen is mightier than the nurse—at least in producing a contented mind. Ours was 5 feet square by about 26 inches high, a good height to stand and hold on by and to shake. It had a bottom of some water-proof material, buttoned on at the corners, that was good after a rain, especially on grass, and made it easier to move all one's worldly possessions at once.

The Pen Is Mightier than the Nurse

The pen has a most interesting physiological effect in the direction of contentment. Children seem willing to spend hours and hours playing in it when they will soon get fussy if left outside. Often even after a child who has been running all over the playground or the room has already become tired and cross, he will, if taken up and put inside the pen, quiet down and play contentedly, singing to himself. There is evidently something about an insuperable, and therefore accepted, limitation that is very soothing to the childish mind. I suppose the reason is in the need of the simplification of life; of escape from "the madding crowd" and a plethora of resources; of retiring to one's country home. The feeling is the same that, as reported by William James, has driven many weary souls to seek the monastery; the desire to escape confusion and attain simplicity at any cost. Also, when the child is inside the pen, you can look the other way, and know that he will not kill himself before you can look back.

The Perennial Charm of the Sand-Box—How to Equip One

Of course, from a very early age, the child will want a sand-box. Ours is four by four feet and a foot high and has a cover, the legs of which stick up in the air when it is shut and support it on a level when open; when, also, it has an edge to keep the sand from getting pushed off. The extraordinary attraction of sand to work in has often been spoken of. Children never tire of it. The very day of their return from the seashore, where they had lived actually on a sand beach, ours rushed out and began playing with the sand-box as if they had never seen a handful of such material before. The reason, of course, as I have elsewhere stated, is that sand is plastic to their hand; and more, that it takes the form they imagine for it instead of following some preconception of its own. Molds are good, and iron spoons, and receptacles to be filled, and sticks and stones that can be stuck up to make a garden, and water for ponds and rivers—though these last are rather soaky and disappointing. The pen, of course, can be pushed up beside the sand-box, and one can, as it were, have the advantages of a country and city home combined. The sand should be what is called "fine beach sand," not the coarse yellow kind, which is sometimes too atomic in its bias; while the really fine sand masons use is unnecessarily expensive. Bank sand is all right for the children. They are entirely impartial about dirt. It is merely a question of washing.

Simple Apparatus to Assist the Child's Interest in the Matter of Balance

When a child has just learned to walk, he has a vast interest in the question of balance. He likes much to stand up on the box and feel it jiggle. He will perhaps undertake a rocking chair, with results in rapidity of vibration that are often interesting if your nerves are strong. A child likes to stand up on a toboggan. Above all, he likes to run down any kind of a bank; and the best is, of course, the one that makes a noise when he does it, such as may be produced by tilting a board up on the sand-box on one end. Having, as I supposed, invented this not very complicated piece of apparatus, and introduced it on our playground, I was both disappointed (because of the vanished opportunity for a world-patent) and gratified to learn that it had already been used by the Japanese in their institution for soldiers' children. I had my board hooked on the sand-box, so that it would not slip off and be a cause of grief. But any object on a playground, like any new institution elsewhere in the social fabric, is likely to produce other consequences than those foreseen. A board, whether supervisory, executive, or otherwise inclined, may be put to uses not intended by its designer. Ours, with one end on a chair, served as a bridge, as a boat, and—in conjunction with another board, with a gate that had become unhinged, and other objects of "bigotry and virtue"—as a sleigh for Santa Claus. Also, it gives very good results when laid across one of the rollers used in moving the sand-box, so that the end hangs down when you run across it. Also it makes one side of a coast. For as soon as the snow comes, we shut the sand-box, roll it to one end of the piazza (with its back to the sun so as to minimize melting), pile the snow up on it, and make a coast. The last day of coasting we open it again and it reënters on its office as a sand-box.

Coasting a Favorite Pastime of Small Children

Interest in piling up—not necessarily coupled with efficiency—is marked from an early age. But from a still earlier age (perhaps three), and continuing I don't know how long (I am sure it lasts at least to forty-six), the interest in coasting is phenomenal. I have seen a boy of five, by no means lacking in discrimination of what is real life and what is not, coast all the afternoon on a wedge of snow one foot high at the top by three feet long at the base. To be sure, it was icy and perilous. This same boy at the age of seven, though he now fully appreciates the more exciting coasting on the Common, will still use the piazza coast all the afternoon when nothing better offers; and all the children have now used it pretty steadily from the ages of five to eight.

Other Material for Outfitting a Playground

Of course, blocks are good on any playground for small children; but our children, when using blocks, seemed to prefer the house to outdoors, even in warm weather. A rocking-horse has been used at intervals; also driving-reins for quadrupeds of the paradoxical two-legged variety. A velocipede, affording a valued variety in the game of tag, has been a great resource; also a carpenter's bench, which has spent part of its time on the piazza (under a rubber cloth at night) and part of it in a small adjoining room.

This vestibule, or annex, by the way, has been of much importance, affording a safe shelter, within easy reach, for things that don't like to get rained on, and being used as a general base of supplies. Diabolo goes everywhere; likewise

baseball, when the age comes for it. Snow-balling next door sets in at about six for boys. Dolls have been a very present joy, including Teddy-bears; and to the proper care of these an apparently indestructible doll carriage has contributed much.

"Green Things Growing"—Animal Pets

We have flowers in boxes on our piazza, planted there; and the seeds planted in them, in May, are a good deal appreciated by the children, and very much so in some cases by the English sparrows. The interest in growing things is very strong when it takes hold—as it has done in one case out of four with us. A dog and a kitten seem, however, to meet the nurturing impulse more effectively in our case. (It is an interesting thing, by the way, that our dog, when he played tag, at first thought it necessary to grab up a piece of wood. I think he considered it a bone, and that you were chasing him to get it away.) Boys seem to me to have toward animals fully as much of the maternal instinct as girls; and it appears, from facts reported by Darwin, that they have a good right to this inheritance. We have also an indestructible vine (Boston ivy, of course) and an awning—necessary in summer.

"You See, We Are Very Lucky, because We Have Barrels"

But for every age, up to perhaps eleven, and on every kind of playground, there is, besides the desire for this and that particular thing, a desire for things undifferentiated. Almost anything will be put to use by a child. They want to handle the universe and get used to it, and almost any object is material for investigation or adventure. One child of eight, whom I was talking with about the resources of her backyard, said, "Well, you see, we are very lucky, because we have barrels." I could see that the condition was a fortunate one; but I did not at first perceive exactly what form the good fortune assumed, until she continued: "You see, there is a little bank, and we get inside the barrels and roll down." Of course she was, as she had stated, an unusually fortunate young woman; but I think if it had not been a bank, it would have been some institution equally remunerative. As in the case of the little girl who was "very lucky with a lamp before the door," my little girl's father also was a banker, and perhaps that had something to do with it.

I have sometimes meant to make an inventory of the objects presented on opening our sand-box, but never felt quite equal to the task. I remember a very solid copper coal-hod. I don't think I ever saw it used for anything, but I feel that it must be satisfactory to know that it is there. There are many bits of wood of different shapes and sizes, a tennis ball, two rollers to move the sand-box, and several pails.

The Home Playground Will Absorb and Satisfy Most Children

Precisely what a child from three and one-half to four years old did every morning from 10 to 12 I am unable to record, except that she was always happy, always occupied. This last winter, at the advanced age of four and one-half to five, she can be partly accounted for as a kindergarten child; that is to say, one whose resources have been definitely developed—instead of being left to nature, which is a modern name for the uneducated nursery maid, so that she is able to do things for herself. I know that dolls and the baby carriage have a great deal to do with it; but also I think that absorbed and contented occupation will generally result in the case of a child full of life in any place where there are things to visit, handle, and pretend things about. Of course, this was the case of a rather remarkable child; but then, every other case is like it in that particular respect, as one can always ascertain simply by asking the mother. But one caution should be suggested: if a child is not happy under such conditions, do not be fierce and unreasonable, but supply the resources which it seems to want.

Another Playground Device That Has Proved Successful

Another case, which, though it is of a house on the seashore, is also that of a backyard, and largely the story of a little apparatus. The whole lay-out consists of a horizontal beam 12 feet long, supported by three uprights at a distance of 10 feet from the ground, running parallel to a fence about 10 feet off and 2 feet lower than itself. Between the two are three nearly horizontal ladders, all supported at the fence on one end; one supported on the beam and the two others on a bar and vertical ladder respectively at a height of about five feet from the ground. There is also a slide running down from the said bar on the side away from the fence. The fence connects with a piazza about 10 feet long, so that when you drop from a ladder or go down the slide, you can run up on to the piazza and escape back on to the ladders along the top of the fence.

The essential cause of the popularity of this apparatus—which has been very great and fairly

continuous among children varying in age from four to fourteen, and especially between the ages of six and ten—has been the fact that tag can be played on it; that is to say, the popular thing has not been doing stunts, but playing the game. I think, also, the complication of the arrangement, including the use of the piazza, has been essential. I know I tried a similar lay-out on a city playground, minus the piazza, and nothing satisfactory has resulted.

Also I remember an English elm on which I once assisted in rigging up a couple of old well ropes, tying them pretty near the top of the tree, and bringing each down and hitching it with a turn near the end of various branches until it reached the ground. There were thus three ways of getting up the tree,—two ropes and the stem,—and we played "jaguar and monkey" there with great satisfaction for several summers.

Some Experience with Swings

A curious experience to me in connection with this apparatus was the discarding of swings. I am a believer in swings on a city playground. They are popular in all weathers; the falling and rising, pull and relaxation, going forward and back, seem somehow to fit our sense of rhythm—like sleeping and waking, working and rest, society and solitude, Republican and Democrat, tweedledum and tweedledee. A little hypnotic, perhaps, but there is also training for the imagination. With me it was wolves and Indians, but almost any kind of galloping adventure will meet the requirements.

Nevertheless, we discarded swings. I think that, as compared with a strenuous game, it seemed trashy, sensational; an emotional experience rather than an exercise of character. Also it led to quarreling. The above ruling against swings, however, is not to be so construed as in any way to prejudice the right of walking up the inclined poles of the slide by means of a rope attached to the swing fastening in the beam above, and then jumping off near the top of said slide and holding by the rope in such a way as to obtain a suitable swing, and so landing on your feet—or otherwise, as fate wills—at the end of it. The exercise of this reserved right is certainly valued as early as the age of five, at least.

The apparatus has proved especially valuable to a child who was a little hysterical about trying almost any physical feat. From being unwilling to venture going hand over hand under a ladder, she got in a year to go along skipping two rungs and swinging by the third. A tilt was useful for a while; but the board was afterward needed to make a coast; and when one boy had got a splinter sufficiently large into his toe by that process, the board was promoted to serve as the basis of a raft, which position it now holds.

The Home Playground Will Not Always Satisfy

Of course, do not think that any home playground is enough. Other people's cellar doors have fascinations as well as our own. There must be variety of scene as well as of employment. There must be nature—real grass to rub your nose in, and things to bring home in your pockets to excite inquiry on the part of one's denser elders, as to the source of fascination. Also, a boy of seven who can shoot the waves all day in his own boat, or one who can perform even greater feats in private war, will sometimes feel that he has a soul that no sand-box or things that savor of the sand-box can always and entirely fill.

HOUSEHOLD MANAGEMENT

BY

CHARLES F. LANGWORTHY

ADAPTING food to the pecuniary resources and living conditions of a family implies more than buying what one can pay for and the same kind of things one's neighbors use. Students of economics find that while the proportion of the income spent for rent, clothing, etc., remains about the same, regardless of the total size of the income, the proportion spent for food grows less as the income increases. According to available statistics, a family with an annual income of $3,000 spends $750 (or one-quarter of the total income) for food, but a family with an income of $1,000 spends $330 (or about one-third) for food. This does not necessarily imply that the family with larger resources is more adequately nourished than the other—though without doubt

it is more daintily fed, the extra money being used not to supply actual bodily needs, but to gratify the tastes of the family, and to adapt the diet to financial and social opportunities. Of course, the gratification of tastes in such ways is not a matter of mere sensual indulgence; but, on the other hand, rightly employed, may have a decided value in raising the standard of comfort in family life. Yet, whatever the income, it is better from every point of view to live simply rather than otherwise. For the man of large income simple living may mean the purchase of out-of-season foods, and specially selected supplies which are high in price, and great care in preparing foods; but it should not mean the superabundance and wastefulness of too generous living. For the family of moderate income right living should mean simple foods economically purchased, well cooked, and well served; these things, after all, are of more importance than out-of-season foods and fancy quality. Setting a table more elaborately than one's position demands is as unwise as wearing too costly clothes. Family life would be smoother and more normal if we honestly adapted ourselves to actual conditions instead of trying to adopt the supposed habits of those whose income and circumstances are very different. The ideal should be as much of pleasant, wholesome family life as can be secured with available resources of money, time, and strength. To secure this, due regard should be paid to providing a reasonable diet and to preparing it properly and serving it attractively. Where conditions are as varied as they are in different families, even those of similar means, it is difficult to fix accurate standards, applicable to all cases, for food, clothing, or shelter—the three great factors of material life. The most that will be attempted here is to indicate some general points which may serve as guides for the intelligent housekeeper.

Selection of Foods—What We Mean by "Protein" and "Fuel Value"

In selecting food the important considerations are (1) nutritive value, (2) quantity, (3) quality, and (4) economy. To be satisfactory the diet must be adequate for bodily needs, pleasing in character, and reasonable in cost in proportion to the family income. In discussing food values, terms are required which are not generally familiar. One of the important ones is "protein," which is a general name for the nitrogenous material of food, such as the albumen of egg or the gluten of wheat—that is, the materials used to build and repair the tissues; and another equally important one is "fuel value," which represents the number of heat units (calories) the food supplies the body to enable it to carry on its vital functions and perform its daily work. Fat, sugar, starch, and other carbohydrates are the chief sources of energy, though protein supplies some energy in addition to its other function.

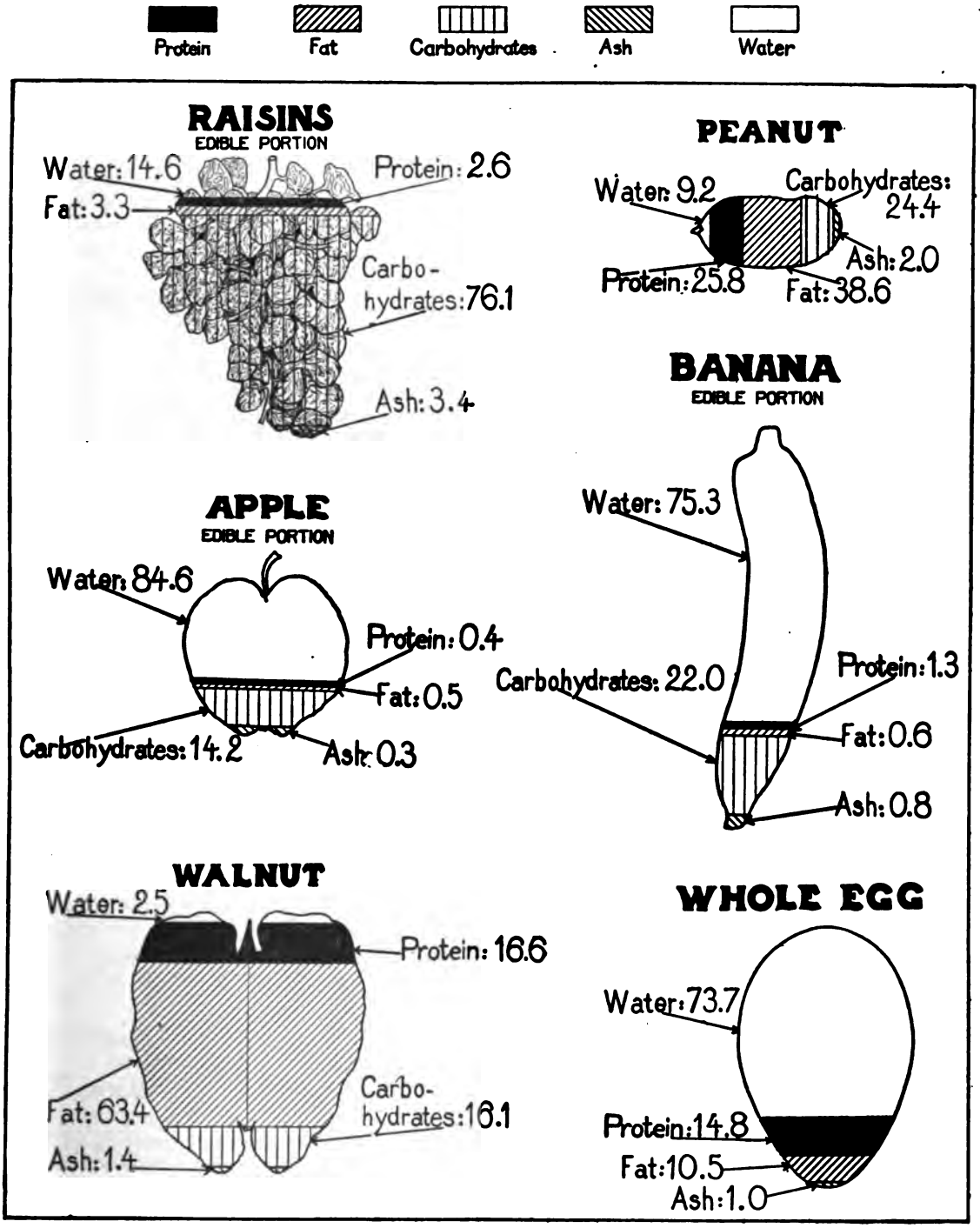
As a result of much study and experimenting, dietary standards, designed as guides for home and institution management, have been deduced that show the quantity of protein and energy required per day by an individual living under varied circumstances. A dietary standard commonly quoted calls for 100 grams of protein and 3,500 calories of energy per day for a man of average weight in full vigor and performing moderately active muscular work. A woman requires somewhat less than a man, owing to her relatively smaller stature, and children and elderly persons less than persons in full vigor.

Helps in the Study of the Science of Nutrition

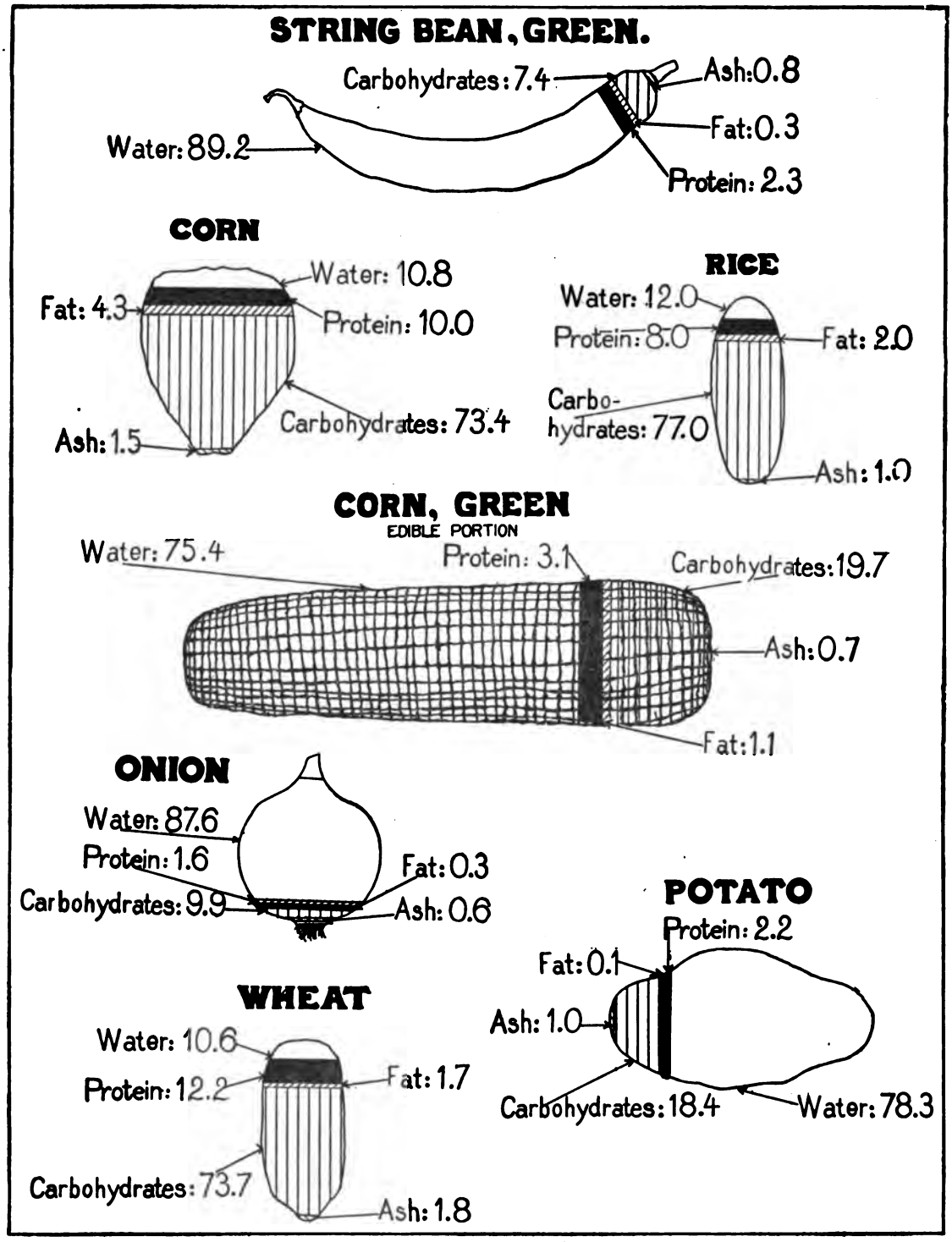
For a full understanding of these and related matters considerable study is required, but the time will be well spent. Instruction in such subjects is given in hundreds of schools and colleges and the woman of to-morrow will discuss household problems in terms of "protein" and "energy" as familiarly as her brothers now discuss electrical problems in terms which were unknown or unfamiliar fifty years ago. The more the housekeeper understands of the science of nutrition, the better she can adapt the diet to the needs of her family. We must not forget, however, that practical information such as has been handed down from mother to daughter is often as valuable as text-book knowledge, and that experience and common sense are good guides as far as they go. For those who find it difficult to acquire and apply such technical knowledge of food problems it may be said that the ordinary mixed diet made up of such foods as dairy products, cereals, fruits, vegetables, and meat, if wisely selected on the grounds of experience as regards the kinds and quantities used, will not be far amiss, the test being that the family is and remains in good health and normal condition. There are many books which contain information on such topics as the composition and nutritive value of food, and the United States Department of Agriculture has issued bulletins on this subject which are sent on request.*

* Such as U. S. Dept. Agr., "Farmers' Bulletin," 142, "Principles of Nutrition and Nutritive Value of Food," and other "Farmers' Bulletins" on similar topics.

COMPOSITION OF FOOD MATERIALS.



ON THE BASIS OF CHARTS PREPARED BY C. F. LANGWORTHY.


STRING BEAN, GREEN.
Carbohydrates: 7.4
Ash: 0.8
Fat: 0.3
Water: 89.2
Protein: 2.3
CORN
Water: 10.8
Fat: 4.3
Protein: 10.0
Carbohydrates: 73.4
Ash: 1.5
RICE
Water: 12.0
Protein: 8.0
Fat: 2.0
Carbo-hydrates: 77.0
Ash: 1.0
CORN, GREEN
EDIBLE PORTION
Water: 75.4
Protein: 3.1
Carbohydrates: 19.7
Ash: 0.7
Fat: 1.1
ONION
Water: 87.6
Protein: 1.6
Fat: 0.3
Carbohydrates: 9.9
Ash: 0.6
POTATO
Protein: 2.2
Fat: 0.1
Ash: 1.0
Carbohydrates: 18.4
Water: 78.3
WHEAT
Water: 10.6
Protein: 12.2
Fat: 1.7
Carbohydrates: 73.7
Ash: 1.8

Necessity of Care as to the Quality of Foods

In the purchase of foods the housekeeper should see to it that she obtains pure foods and clean foods. Within a short period of years national and State pure food laws have been adopted and standards of purity fixed, so that the housekeeper may now be reasonably sure that the food products she buys are satisfactory in this respect. There are many State and municipal regulations which have to do with cleanliness in the production, handling, and sale of foods, and housekeepers are rapidly realizing that dirty foods may be dangerous, and that the desire for cleanliness is more than a sentiment. The market standard in this respect will probably now keep pace with the demand, because far-sighted manufacturers and merchants realize to-day more than ever before that food products which meet the requirements of cleanliness are the ones that prove popular. The quality of food is a matter of great importance, yet too often appearance, which is only one factor of quality, is the purchaser's sole guide. Most women can judge of the quality of a piece of cloth, but very many can tell little or nothing of the table quality of food from its appearance; or of the relative nutritive value of different foodstuffs. The necessary knowledge can be gained in many cases from experience and intelligent observation, but perhaps more readily from a teacher familiar with the subject. With vegetables, fruits, meats, and indeed with most foods, freshness is an element of quality, and it is not difficult to learn to distinguish fresh from stale goods. The housewife who *knows good goods* is, of course, in a better position to secure them at a reasonable price than the one who is forced to depend upon the judgment of the dealer. It may be added that in this country too many housewives do their marketing by telephone. French women of the middle class are known the world over for their shrewdness and economy in the purchase of household supplies; and they are not too fastidious to go personally to the markets, basket on arm.

Economy in the Purchase of Foods—Variety at Small Expense

True economy in the selection and purchase of foods depends upon many factors. The ideal should be to secure the best returns in nourishment and enjoyment for the money one can wisely spend, rather than to consider price alone. Many of the cheaper foods are as nutritious as the more expensive of similar character. Thus, the cheaper cuts of meat are as nutritious as the more expensive, any superiority of the latter lying mainly in some special flavor or texture or in the ease with which they may be prepared for the table. If every penny counts, the cheaper cuts will furnish the necessary nutrients for the smaller sum. Out-of-season vegetables and fruits have no greater nutritive value because of their rarity. Each housekeeper must decide for herself whether she will pay the higher price to obtain variety, or whether she will secure this in some less expensive way.

Preparing the Daily Fare So as to Insure Good Living at Little Cost

In many families time in preparation and fuel used are important factors in economy, which the housekeeper should consider in addition to the market cost of supplies, in deciding whether she will use canned or evaporated goods as compared with fresh materials, and bakers' goods as compared with home-cooked foods; whether she will find it cheaper to use the more expensive cuts of meat which may be quickly cooked; and whether there is less waste in using package goods instead of the cheaper goods in bulk. When the income is limited the securing of enough nutrients for bodily needs must be the first problem; and here knowledge is especially important, since, otherwise, wrong foods may be selected and money spent to little purpose. If, in addition, the foods are badly prepared and the waste excessive, the daily fare will be dear whatever the cost. The "good manager" has a knowledge of what is required, having learned from her mother or from some one who is skilled in housekeeping; or, if she is of the younger generation, she may have acquired her knowledge in school, or had her home training supplemented by school work. However secured, the knowledge is invaluable.

Briefly, the selection and planning of meals involves the use of a small group of staple foods, such as flour, eggs, milk, butter, meat, standard vegetables, and fruits, upon which we depend for the bulk of our nutrients, and the use of a fairly large number of other foods which come within the limits of choice and upon which we can depend chiefly for variety and attractiveness. The proper combination of the two groups insures good living.

Some Things Necessary to the Proper Preparation and Serving of Foods

Experience has shown that in general good food is more a matter of knowledge and skill than of money spent, since the elaborate and

costly meal, if badly planned, is unsatisfactory, while the simple and well-planned meal is satisfying. Knowledge of cookery is of first importance, as is also knowledge of desirable combinations of foods and flavors. Skill in cookery may be gained by experience and practice and is worth acquiring, whether it is actually put into use or not; for the woman who directs can secure better results if she knows what is required and how it may be obtained. In many American families more food is purchased than is prepared, and more is cooked than is used, and the waste is correspondingly large. Not infrequently the portion served to each member of the family is more than will be eaten, the idea being presumably that the reverse is niggardly living. Each family must decide how much it cares to pay for such over-abundance, but surely it is the part of wisdom to eliminate such sources of waste. If the income is limited, this is an absolute necessity if the best results are to be obtained for the money available.

A Woman Is Entitled to Such Labor-Saving Devices as May Suit Her Particular Case

In the preparation of food, and in carrying on her other home tasks, a woman proves her mettle by her good results and economy of labor, and she is entitled to all the labor-saving devices and household conveniences which her income allows. Vegetable-parers, bread-mixers, fireless cookers, and a host of other devices are on the market, and the housekeeper should make use of them, selecting those which will actually save labor in her particular kitchen and under her special conditions. A suitable water supply, good light, and good air are essential, and a pantry conveniently located, kitchen furniture arranged to save steps, and similar things all tend to lessen the time and labor involved in preparing meals. Many times thought given to this matter will, with little expenditure of time or money, make over an old, inconvenient kitchen into one which will be satisfactory. Placing the cooking-table near the kitchen stove is a matter of common sense rather than of finance.

Simple Dishes of Fine Flavor Are Desirable for Everyday Living

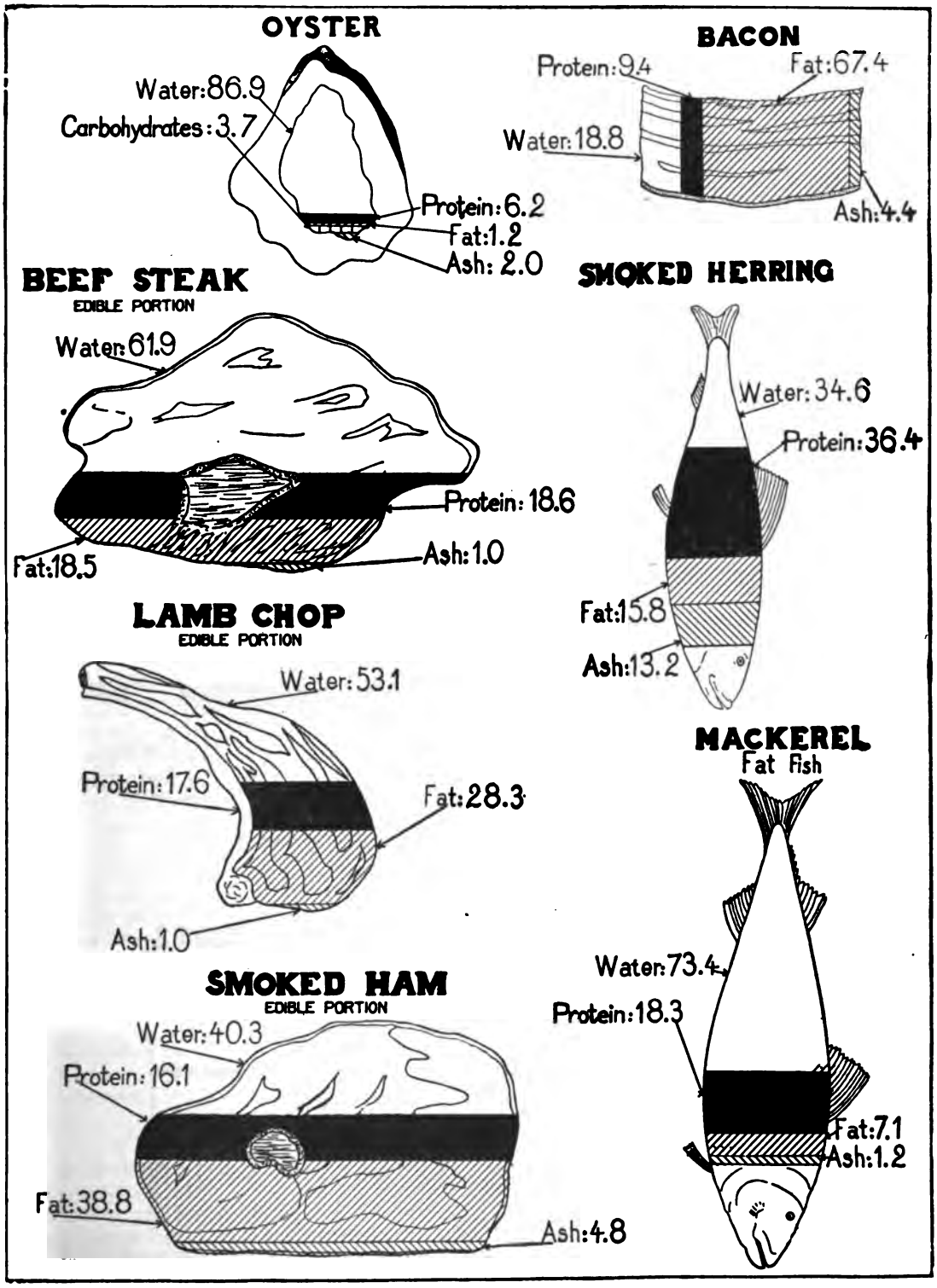
Attractiveness and orderliness in all that pertains to food are fundamentals, and it is a truism to say that they are within the reach of almost every one. Avoidance of the superfluous and the unnecessary cannot be too often insisted upon. It is true that in many families fussy dishes which require much time to prepare are far too often considered a mark of good living, and given preference over something simple that may be of really finer flavor. Elaborate foods are not marks of good living any more than elaborate clothes are indications of good manners. Especially good meals, extra dishes, and the best service one can afford are appropriate to mark birthdays and holidays, whether the occasion is for the family only or shared by guests, but simple living is more desirable for the everyday life. The housekeeper who sees to it that her meals, no matter how simple, are well prepared and served in as orderly a way as possible, need not fear to share them with a guest. The realization of this is a long step in the direction of true hospitality.

In the preparation and service of food very often great stress is laid upon garnishing dishes as a means of securing attractiveness, and there is no doubt that such simple garnishes as sprigs of parsley, lettuce, or celery leaves makes many dishes attractive, as do fresh napkins, or white paper folded around a baking-dish. Yet garnish is the first thing which can be dispensed with, if every item of time and expense must be taken into account. In this respect ornament differs entirely from cleanliness and orderliness, which in all cases should be regarded as essentials.

Housework and Ideals—Equality of Responsibility as Well as of Privilege

It has been estimated that in eighty per cent. of the homes in the United States the housework is done by the members of the family. If this estimate is correct, it means that *in the majority of our homes it is possible for the children to take part in the preparation and serving of food and in other household tasks,* and this training of hand and mind has an educational value it is hard to over-estimate. A few generations ago no girl, whatever her wealth or social standing, was considered properly trained unless she had a good working knowledge of household affairs; and fortunately the old ideas still prevail in countless homes. Nevertheless, there are many women who seem to be unaware of the dignity of home tasks; who seem to feel that "kitchen work" is degrading and that a "lady" should never touch pot or pan.

The question of adapting the standard of living to one's position comes up again in this connection. We hear many discussions of the equality of men and women. Surely equality should mean equality of responsibility as well as of privilege. With demands for opportunities for education, and for participation in public affairs,


OYSTER
Water:86.9
Carbohydrates:3.7
Protein:6.2
Fat:1.2
Ash: 2.0
BACON
Protein:9.4
Fat:67.4
Water:18.8
Ash:4.4
BEEF STEAK
EDIBLE PORTION
Water:61.9
Protein: 18.6
Fat:18.5
Ash:1.0
SMOKED HERRING
Water: 34.6
Protein:36.4
Fat:15.8
Ash:13.2
LAMB CHOP
EDIBLE PORTION
Water:53.1
Protein:17.6
Fat:28.3
Ash:1.0
MACKEREL
Fat Fish
Water:73.4
Protein:18.3
Fat:7.1
Ash:1.2
SMOKED HAM
EDIBLE PORTION
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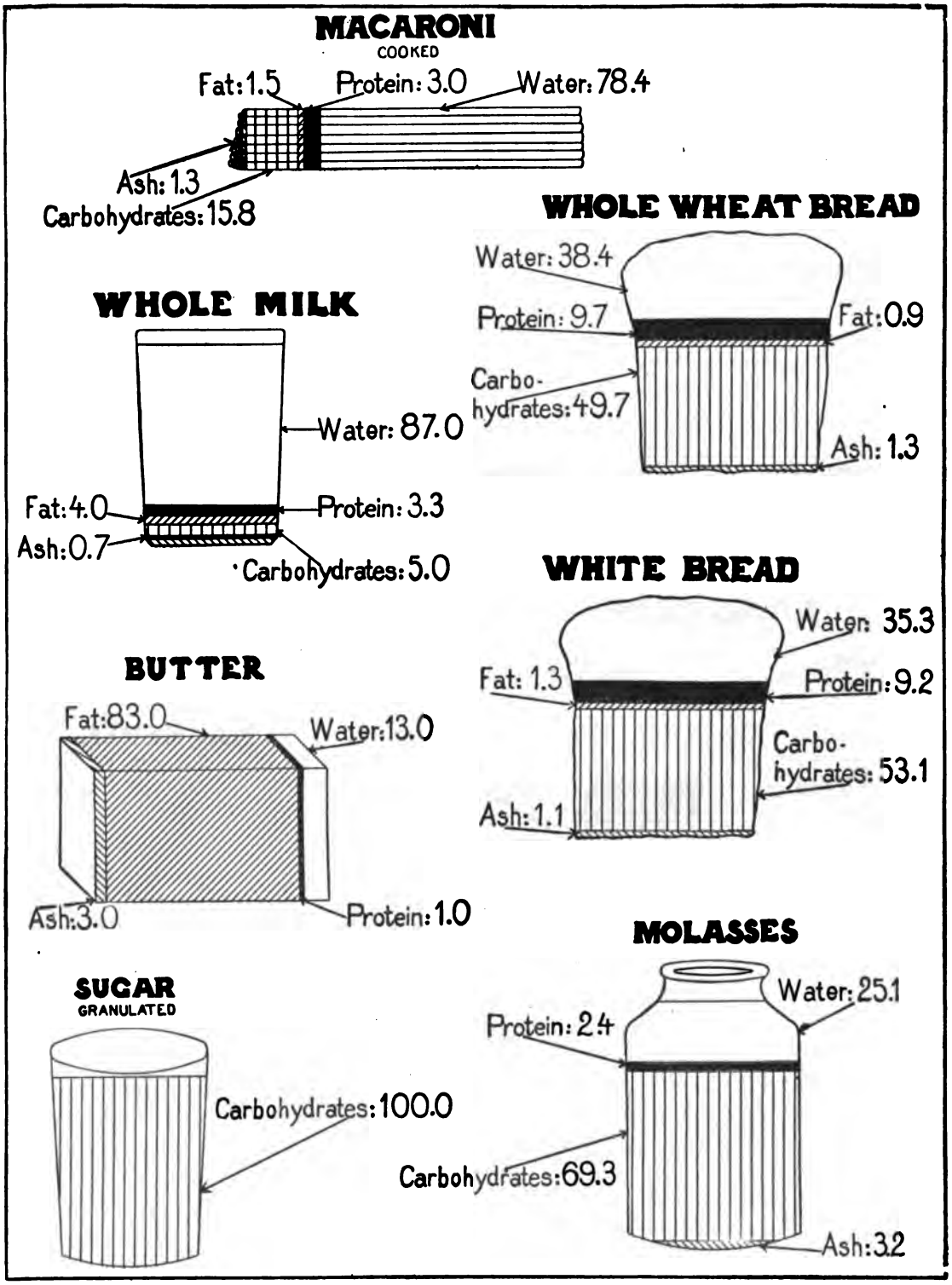
Protein:16.1
Fat:38.8
Ash:4.8


MACARONI
COOKED
Fat: 1.5
Protein: 3.0
Water: 78.4
Ash: 1.3
Carbohydrates: 15.8
WHOLE WHEAT BREAD
Water: 38.4
Protein: 9.7
Fat: 0.9
Carbo-hydrates: 49.7
Ash: 1.3
WHOLE MILK
Water: 87.0
Fat: 4.0
Protein: 3.3
Ash: 0.7
Carbohydrates: 5.0
WHITE BREAD
Water: 35.3
Fat: 1.3
Protein: 9.2
Carbo-hydrates: 53.1
Ash: 1.1
BUTTER
Fat: 83.0
Water: 13.0
Ash: 3.0
Protein: 1.0
MOLASSES
Water: 25.1
Protein: 2.4
Carbohydrates: 69.3
Ash: 3.2
SUGAR
GRANULATED
Carbohydrates: 100.0

(IV)

there should be a realization of the obligations involved with respect to the problems of home-making. This means, among other things, that in directing or in actually doing the work of the home, the grade of work performed by the wife should correspond to that of the husband. If his position is one in which he uses his brains to oversee other men's work, his income will probably be such that his wife's work will be chiefly that of directing household tasks. If he is an artisan or a workingman, his wife should be willing to work with her hands in the home. If she insists on another standard, she is demanding that the wife receive more than the husband, while contributing less service in return. All such considerations must naturally take into account the mother's burdens and special responsibilities in bearing and rearing children.

The Housekeeper Should Be Able to Distinguish between the Essential and the Non-Essential

To sum up, it is essential that a housekeeper shall have a knowledge of the needs of the family, gained either by formal study in school or by informal study in her parents' home. This means that the woman who occupies her own home either as a director or as a worker should know what articles are needed for food, clothing, and house furnishings, and have an idea of the approximate amounts required of each, as well as a knowledge of cookery and other details of housekeeping. She should be able to distinguish in all cases between the essential and the non-essential, as well as the desirable and the undesirable. This seems a great deal to expect, but, after all, do not most women who are brought up under average conditions possess a larger or a smaller part of this knowledge, even though it has not been formulated? And does not the woman who has gained experience under a well-trained mother or from teachers in school or college possess a large amount of it? The woman who has not had an opportunity to learn must be reached by extension movements, by continuation schools, and by other special educational agencies. One such agency that may here be mentioned is the Housewives' League, the object of which is to instruct the housewife how to determine values, to buy economically, and to eliminate waste.

Conditions and opportunities vary, but the ideal should always be a wholesome home life with the health and strength of all safeguarded; and so far as may be, a home where each member of the family may develop and have a fair share not only in the pleasures but also in the tasks, and an opportunity for the training of mind and hand that comes from worthy work rightly and conscientiously done.

Studying the Details of Expenditure for Hidden Lessons

To the above helpful essay may be added the following paragraphs from the pen of an expert in household economics:

"In money-saving, too, working with the smallest detail pays. If I would make every dollar, every cent, do its full work, I must keep an exact account. But simply keeping the account helps little. The wisdom of each purchase must be questioned; its value and cost considered. To-day's expense must be compared with yesterday's. I must study the details of expenditure, until the hidden lessons are brought to view. I must put them into such shape that the facts will stand out clearly, and be ready always to show where the leaks have been. Each reason for buying must be looked at honestly, and be given its just weight. Fashion, personal taste, habit, must all have due, but not undue, consideration. The *luxuries* must be made to stand out among the *essentials*. (I underline them with red ink.) The smallest possible saving is well worth while unless, of course, it costs more in time and strength than it saves in money. We pay for our homes in money, time, strength, thought, and will power. Any one of these may be saved at the expense of the others. So there is always the question,—which shall I save, my money or myself? Astonishing results may be had with will and thought, when money runs low. All this takes time, but I do not know any time spent to better advantage.

Much Household Waste Is Due to Prejudice and Lack of Investigation

"I have spoken thus at length of details, because, being small and concrete, they are easy to grasp definitely; and the understanding of them thoroughly clears the mind to see the big things of life. Independent, honest, earnest, definite thinking is the thing we housewives need most, both to decide the ends we wish to aim at and the steps we must take to reach these ends. Prejudice and mental inertia stand in our path and must be cleared away. These are among the worst enemies of economic housekeeping. These prevent one's taking advantage of the many chances for small and large economies. It is not unusual to see educated women, with incomes small for their needs, refuse to consider even the use of new, cheaper articles of food

about which they know nothing, but which they do not fancy. Some of them pride themselves on what they consider their fastidiousness, as if they said,—taking liberties with the quotation,—

"'If that is not good enough for me
Which is good enough for him,
What a very fine young man
I must have always been.'

"The waste due to prejudice and mental inertia can be seen all about us. In New England, I saw dog-fish thrown away by the cart load, although the Department of Agriculture tells us that it is much like sword-fish, is in common use in other countries, and that it should rank with our popular food fishes. Its name condemns it.

"I have known a woman who had a 'notion,' as she said, that a yeast cake could not be kept after it had been cut. When circumstances made it necessary for her to make a small amount of bread each day, she made no effort to prove or disprove her 'notion,' but bought a fresh yeast cake each time, used one-fourth of it, and threw away the rest—a waste of 75 per cent. This seems a small matter, but 75 per cent. of 365 times $.02 is $5.49, about equal to the cost of three-fourths of a barrel of flour. We should look in amazement and alarm at a woman foolish enough to throw away three-fourths of a barrel of good flour.

A Contracting Teamster and His Unintelligent Attitude

"I knew a man who owned two horses, dear old friends, who cost him more than he felt he ought to spend on them. In the publications of the Department of Agriculture, he studied the cost of keeping horses, and found directions for feeding that would cost half as much as the usual hay and oats. He tried it, weighing his horses once a week at first to see that they were not suffering, and found it worked well. The horses remained in perfect condition, and showed no loss of appetite or spirits. He was so pleased with his success, that he told several other horse owners about it; they needed to economize as much as he did, but they took no interest in his account. One man, in particular, showed a most interesting mental state. He was a contracting teamster, and had a number of employees and teams. He was not doing very well, he said, owing principally to the high cost of feed. He deplored the fact that he could not afford to live where there was a yard, even a little one in which his two children could play out-of-doors. And, in fact, they and their mother did look pale and wan for lack of sunshine and fresh air. When he was told of the plan for cheaper feeding, he said, 'Well, I don't know—I don't just like the idea. You see it is this way,—*I* am fond of horses and want to give them what they like and are used to.' This was not a woman nor a housekeeper, but I tell the story because it brings out so strongly the point I wish to make.

The Conscientious Housewife and the Cotton-Seed Oil

"The cure for this state of mind is brain-work, knowledge, facts. Suppose a conscientious housemother were afflicted with prejudice. Suppose she had heard, from a friend, of cotton-seed oil as a substitute for the olive oil she could no longer afford, but she 'did not like the idea—it might be foolish but—*her* family to be reduced to cotton-seed oil! No, she had never tried it—had never tasted it that she knew of—did not know anything about it, but—'

"Now let this woman go to work in earnest to learn all there is to know on the subject. Let her write it down somewhat in this way:—

"1.—Cotton-seed oil is clean,—on that we can depend, for its manufacture is under close inspection by the Government.

"2.—According to the best authorities consulted, it is as wholesome and nutritious as the same grade of olive oil.

"3.—It spoils more quickly than olive oil, and so more care is needed in buying and keeping it.

"4.—It lacks the delicious flavor of olive oil, and for this reason should be carefully seasoned. But the rancid taste and smell often associated with it in our minds are due to oxidation, and are not present in fresh oil of good quality.

"5.—As a source of the fat needed in our diet, it is cheaper than even the lower grades of olive oil, cheaper than butter, cream, bacon, or the fats of most meats.

"And so on, with all facts she can gather. Now let her make a trial of it on her own table in a well-made, well-seasoned mayonnaise, and she will be ready to form an intelligent opinion as to whether, in her case, the very considerable saving of money pays for the lack of flavor in her salad. Whichever she may decide, her greatest gain will be in mental training, training in rising above her prejudice, training in governing herself by knowledge and reason."

SAVING STRENGTH

BY

EMILY M. BISHOP AND MARTHA VAN RENSSELAER

A WOMAN once said, "I have so much to do I don't know what to do first; so I think I will take my nap and get so much off my mind." She was, unconsciously, a good philosopher, for the nap enabled her to get through her duties without worry and fatigue, actually more tiring than work itself.

Our observation of most women indicates that they want not less to do, but more health and strength with which to labor. The average woman wastes nervous energy over unaccomplished work.

"Nonsense! I Have Exercise in My Work"

To suggest to those who in their daily occupations are usually "on the go," not only from sunrise to sunset but for several hours more, that physical culture would be a good thing for them, seems at first impression nothing less than an absurdity. One can almost hear the answer that such a suggestion would call forth from a busy, energetic woman, as well as from many a tired, overworked woman: "Exercise! Physical culture! What nonsense! I have exercise in my work." Or, "I think I could give these physical culture teachers a few lessons myself. Let them get the meals for my large family, do my washing and ironing, take care of my house, tend my dairy, feed my chickens, and they would not need any fancy exercises!" Or the weary woman sighs: "What I want is a chance to rest, to get strong again. Don't talk to me about more exercise." Such reasoning *seems* sound. It would be essentially true if physical culture meant an increase of the same kind of exercise that is necessary in the performance of one's daily work. But the physical culture herein suggested means something very different. The farmer and the wife often need some kind of physical exercise that will tend to correct the physical faults of their daily occupation. The existence of worn, crooked, and prematurely old men and women is proof enough that physical betterment is needed.

Practical Physical Culture Will Lessen the Fatigue of Daily Work

Doubtless some overworked woman has already said to herself, if not aloud: "There's no use talking to me about physical culture, even if it is a good thing. I've so much work to do, I've no time to learn anything." If an old, worn-out stove will burn up twice as much fuel yet give out but two-thirds as much heat as would a new stove, it is a *saving of money* to spend money for a new stove. Likewise, if in using the body in an incorrect way more nervous energy is consumed and less work accomplished than would be in using it correctly, it is plainly a *saving of time* to take time to learn how to use the body more economically. Of course, it is not asserted that by means of physical culture one can lessen the actual amount of a day's work; but it is maintained that an acquaintance with practical physical culture will enable women *greatly to lessen the fatigue* attendant on their work.

How to Safeguard the Body by Relaxation

Rest and relaxation are necessary for health.— One of the first things that many persons need to do is to get rested; then the mountain of work and worry will melt away into a possibility of accomplishment. There are women who would not be caught napping in the daytime and who would be afraid to be found sitting in an easy-chair in the afternoon. Still, it may be a clear gain of time to indulge in such resting periods, and the couch and the easy-chair should be frequently used.

Oftentimes we spend as much energy in useless effort to get things done when we do not feel like doing them as we do in the accomplishment of much more when we are fit for it. We are more satisfied with work done in the morning, when we are fresh, than we are likely to be with that done later in the day, when the spirit lags from want of strength. It has been noted by housewives that perhaps just before dinner, when the family is expected home, or at any other critical moment in the day's work, a nervous tension is invited which wearies more than does actual work. One way to get along at such a time is to screw up the nervous energy a little harder and try to go through the ordeal of being the leading spirit in the household and at the same time seeing that the dinner is on the table in good condition and properly served; quite a different way is to relax physically, and by such relaxing throw off nervous tension with

the belief that everything will come out all right and that even if there are mistakes they are not serious. During such relaxation is a good time to use the rocking-chair, to close the eyes, relax the jaw, rest the head on the chest, and become possessed with the idea that "all's right with the world."

How to Store up Energy through Repose

Repose settles very gracefully upon a housewife. The other members of the family do not always come home with the spirit of helpfulness and cheerfulness, and when a woman finds it necessary to be the pacifier or the encourager it will be time for her to call upon her reserve power of strength. She therefore needs to store up energy for the unexpected, because emergencies are always having to be met in the household. If she does not plan for the unusual, the unusual is likely to be the "straw that breaks the camel's back." Remember the Jamaican couplet:

"Doan run too fas' wi' dat load o' limes;
Ef you run too fas', you will run two times."

Rest for a minute.—The wise woman will not fail to take a few minutes for rest several times during even her busiest and most taxing day. Indeed, it is on just such a day that she most needs to practice the beneficial gospel of relaxation. To relax—to let go the nerve, brain, and muscle strain—for even sixty seconds is a positive gain to the entire system. Complete relaxation and thorough rest are most easily obtained by lying down and unreservedly yielding the support of the body to the couch. Thus to spend five or ten minutes in the middle of each day would enable many a worn and weary housework to *accomplish more, with less fatigue,* than is otherwise possible. The foregoing suggestion is so remote from what many an industrious woman considers her duty to her family as to seem to her like theoretical nonsense. Nevertheless, it is body- and brain-saving, good, common sense. Duty to oneself should lead women to take measures for saving health and strength while there is still a fund to draw upon.

Rest Periods—Vacations—Worry Wastes Energy and Impairs Poise

Rest periods of fifteen minutes at intervals during the day are much to be desired in the housekeeper's program, and they should be taken before she has become so weary that fifteen minutes do not seem to count. A hard-working professional man was asked how often he rested. He replied, as often as he had fifteen minutes to spare. Women do not rest often enough before they are utterly exhausted. Sometimes it seems easier to continue working than to stop, because the first experiences in resting are most uncomfortable; one dreads the let-down after utter exhaustion. Moreover, housekeepers full of life and energy are tempted to work beyond their strength without planning for the reserve necessary for later years.

Vacations cost less and are much more to be enjoyed when one is in condition to appreciate them than at other times. No one needs a vacation more than does a housekeeper. Everything is brighter and more encouraging on her return, and her family feels the benefit that has come to her from a fresh point of view and a rested spirit. Homemakers probably find it more difficult than do many others to leave their work, even for a day or two, and, when it is suggested that they have a change for two weeks, are appalled at the thought of leaving their home duties.

The daily vacation.—It is very restful to sit for ten minutes visiting with some one, or even with folded hands, if one's leisure is not enforced. But as soon as one becomes aware that the dinner may be late because of trouble with the kitchen fire or because of some interruption, every delay becomes wearisome. It is not always possible in a household to have helpers do things on time and accomplish results successfully, and the average woman is worried by waiting for others to gain results or to travel as fast as she wants to. Worrying over such conditions is a difficult habit to overcome; yet it causes much waste energy. The satisfaction of doing all that is possible is really the only necessary requirement, and, if one can drop the worry over work not accomplished, much is gained in poise.

Do Not Anticipate Discomforts

By the fear that we shall fail in them, we unfit ourselves for duties that we wish to accomplish. If one is called upon to act as hostess under trying circumstances or to speak at the farmers' wives' club, the anticipation of her duty is much harder than its accomplishment. But who has suggested failure? It is she who is to perform the part who says, "I am afraid I am going to fail." The fear of failure is a prompt invitation to fail. To entertain this idea of failure is almost sure to bring about direful results, and because of such an idea many refuse to perform a duty that would afterwards be a source of satisfaction. If one does not allow the idea of failure to enter the mind, or drives it out

immediately, there is great promise of success. There is much in the philosophy of abandon in work; when, letting results come as they will, one may be sure of doing the best that is possible.

Bodily Attitudes and Actions Directly Influence Mental States

Mental and emotional states are inevitably more or less influenced by bodily condition and activities. A dejected physical attitude tends to develop a dejected mental state. On the other hand, there is nothing more effective for ridding oneself of "the blues" than to stretch the body to its full height, to breathe deeply, and to express lightness and joyousness in bodily action; to recall some witty saying and laugh over it again, or sing a bit of some merry song, or run gaily out to the barn and call the chickens in cheerful tones, or take a few steps of the dance that one delighted in before one married and "settled down." That "settling down" physically and mentally is perhaps the thing of all things that it is most essential to protect oneself against.

Let Us Learn to Be Glad because We Laugh

How significant is such a remark as "bowed down with grief" or, if a man has been unfortunate, "he has grown ten years older in a week!" Grief, if yielded to, does bow the body down; so does trouble of all sorts. When things seem to be going all wrong and we have begun to take a solemn attitude toward everyday incidentals, the habit of working the muscles into a smile or a laugh will bring a comfortable inward feeling which really means inward happiness. We generally laugh because we are glad, but psychologists tell us that we shall be glad because we laugh; and if the more natural method of laughing because we are glad has been neglected, it may be well to learn to be glad because we laugh. I knew one woman who had a habit, when there was forewarning of a domestic storm, of relaxing the muscles of her face into a smile and even of laughing heartily. This may have been a nervous reaction, but it worked like a charm upon the family and the children knew that when the mother's sides were shaking, discord would be disarmed.

A Physical-Culture Recipe for Mental Let-Go

Depressed mental states have an involuntary restrictive effect on all the vital processes. To be "blue" or sad or despondent is to have the breathing, the circulation, and the innervation of the body less than normal—the latter to such an extent that not enough nervous energy is sent to the muscles to give them tone and vigor. The results are that the muscles become unduly relaxed, the chest sinks, the head droops, and the feet and legs drag. One must summon the will to the rescue. The inert muscles and heavy body must be energized and invigorated. The very effort made in thus taking oneself in hand and holding the body bravely erect, affects the mental state wholesomely. Courage begins to replace despondency. When everything seems topsy-turvy and your feelings are correspondingly crisscross, instead of clouding the day with irritability, or grieving some one by an angry word or unkind tone, try a simple physical-culture remedy: stand perfectly still for a full minute; breathe full and deep; let go the tension in the muscles, loosen the hard-set jaw, smooth out the forehead frown; let go physically, and the mental let-go will follow. A well-poised woman has greater efficiency and a greater power over others than has one with less poise.

The backbone: its great importance in the correct use of the body.—Few appreciate how much health, strength, and endurance, how much ease in work and youthfulness of figure, depend on the backbone. When that wonderful twenty-four-jointed column of bones is in its natural position it forms a double curve. That double-curved line is the line of greatest strength and flexibility. It is also the line of beauty. On the maintenance of the double curve in the spine, the attitude of the body as a whole and the correct positions of all the vital organs primarily depend. Although the double-curved line is the right line for the backbone always to keep when the body is simply erect—either in a standing or sitting posture—deviations from that line are continually occurring during the manifold movements of the body.

The adjustability of the spine to the movement desired is of great service in the use of our bodily machine, but we must be sure to *bring the spine back to its natural pose*—the double curve—after every act that causes it to bend or twist; the failure to do so is one of the chief causes of the aging of the body, of undue fatigue from work, and of the ills that flesh is *not* "heir to."

Keep the Body Young in Spite of Years

No one who can work is too old to gain favorable results from the practice of simple, rejuvenating, restful exercises. The aging of the body is not a matter of years; it is rather a matter of condition. The way one habitually *uses* the body largely determines what its ulti-

mate condition shall be. Oldness of body means setness of muscles as differing from the freedom of the child's muscles; it means stiffness of joints as differing from the flexibility of the child's joints; it means a stooped attitude as differing from the erect attitude of youth; it means heaviness of movement as differing from the lightness and buoyancy of youth. Setness of muscles, which is akin to the muscle-bound state sometimes found among athletes, can best be overcome by stretching and relaxing exercises, stretching the muscles in ways different from their customary use, and then completely relaxing them; stretch and relax, stretch and relax, three or four times in one or two minutes' practice. A noticeable gain in freedom and spring in the movement of the muscles often results from even a few consecutive days of practice.

"With Mirth and Laughter Let Old Wrinkles Come"

Mrs. Emily M. Bishop, in her book entitled "The Road to 'Seventy Years Young'," makes a distinction between organic old age and some of the prevalent old-age bugaboos. She makes years the worst hobgoblin of all and declares that years are only the arbitrary measurement of time, that they have terrorized victims into premature oldness of mind and body. Other old-age bugaboos are gray hair or lines on the face, and pessimistic theories concerning life. Robert Louis Stevenson gives good advice when he says, "Cling to your youth; it is an artist's stock in trade; do not give up that you are aging and you won't age." Shakespeare says, "With mirth and laughter let old wrinkles come." The person who moves about with difficulty and says that he is getting old is inviting old age much faster than he who plays with boys and girls, keeps in touch with books and nature, and has not courted worry and the fear and dread of old age.

Gail Hamilton objected to the term "marry and settle down." It is easy after a day of fatigue to find it difficult to harness the team and drive out to social affairs; but just because such a tendency is becoming habitual one should pull himself together and go anyhow, whether or not it is easy to do so. Contact with other people, old and young, keeps the spirit young; while the habit of growing into fixed ways of staying at home will invite gray hair, wrinkles, and other indications of years. Young-looking men and women whose sons and daughters have grown up, are very attractive members of society. Very often others inquire of them, "How did you manage to keep so young?" Perhaps it was the very sympathy and companionship with their children that brought to the youthful-appearing parents that happy condition.

THE FAMILY MEDICINE CHEST

BY

HARRY C. PHIBBS

EVERY writer of a treatise on any subject starts off with some description of apology for "putting his pen to paper." The majority of excuses tell that no other writer on the subject has fully covered the field, or covered the field in the best manner. My apology is that most writers on my subject are physicians and write from a physician's viewpoint. No matter how simply they endeavor to put their views and instructions, there always seems to creep in a supposition on the writer's part that technical particulars which to him are a matter of first principles should be well known to the tyro. The poor tyro is therefore left guessing on some more or less important point.

The following notes are written from the viewpoint of a man who is not a physician but who has had opportunities of observing the most efficacious treatment of simple ailments and ordinary accidents.

First, we must take into consideration that only those things which are absolutely essential and very likely to be needed should be included. If a man who knew all about it were going to explain a medicine-case to the novice, the first thing he would do would be to open the case and show his pupil each thing individually, telling him what it was for. This is the method (with modifications) which we will here adopt. This may not appear as ethical as writing a polished essay, but for practical purposes it should be much better. The man who will get up a case on the lines laid down by the writer, can then go over the contents and familiarize himself in a general way with the purpose for which each article is included in the case.

Ten Remedies That Fill the Bill for General Needs

We enumerate here ten medicines. There is no law to prevent your selecting more or less, but these ten seem to fill the bill for general needs, and here they are:

Cascara Sagrada:—Constipation is frequent. Prompt and effectual means should be taken to remedy the condition. It is better to use something to tone the bowel to a normal condition than to use a powerful cathartic or purge. Therefore a reliable preparation of caseara sagrada is excellent for the purpose. A pill or "tabloid" of two-grain strength will be sufficient for a dose, and one taken at night after the last meal will promote satisfactory action. You will find that if the bowels are attended to and constipation is avoided, your chances of enjoying the best of bodily health are materially increased.

Aromatic Chalk-Powder and Opium:—This pill is an astringent, that is to say, it is used to stop a diarrhœal condition, which is generally caused by some slight irritation in the intestines. Before administering the aromatic chalk-powder and opium (which, by the way, may be purchased in one pill) a cathartic should be given, this with the object of sweeping out the cause of the irritation. The routine treatment is a dose of castor-oil; but we may also use either calomel and sodium bicarbonate (1 gr. of the calomel and 2½ grains of sodium bicarbonate), or, what is handier still, a tabloid called cathartic compound, which is a very excellent purge. One of these administered in a case of diarrhœa will clean out the bowels and should be followed in about an hour with a pill of the aromatic chalk-powder and opium. This will stop movement and give relief.

Cathartic Compound:—Referred to above, to be used as a purge. It can also be used wherever a cleaning out of the intestines is needed, in case of acute constipation, etc.

Potassium Permanganate, Gr. 1:—This is a very useful article for disinfectant and antiseptic purposes. Two dissolved in a half-pint of water may be used for cleaning a cut or sore. One of its greatest uses is as a drinking-water test. A very small crumb chipped off the tablet and dropped into water will, if the water is pure, color it to a brilliant purple. If the water contains any organic matter, and is therefore unfit for drinking, the permanganate will turn it a muddy brown. Permanganate is also the preparation to use in a case of snake-bite, but this cannot be entered into here.

Alum, Gr. 10:—One dissolved in two ounces of warm water makes an excellent eye-wash, when the eyes are red or inflamed; or if a throat gargle is needed, one should be dissolved in one ounce of water for the purpose. This preparation is also useful in the care of the feet. If the feet are tender, dissolve three of the tabloids and about a tablespoonful of salt in two quarts of water; in this bathe the feet—it will harden them up.

Alum is an excellent styptic; if powdered and applied to a cut it will stop bleeding. It may be used to stop an internal hemorrhage from the stomach. One tabloid sucked in the mouth will effect the purpose. It will be of no use in stopping a hemorrhage of the lungs. The blood coming from the lungs is a very bright red, while that from the stomach is a very dark color.

Quinine Bisulphate, Gr. 2:—Pretty nearly everyone has an idea of the medicinal uses of quinine; a dose of it will generally stop a cold in the early stages. One tabloid should be taken with a little water before going to sleep. In case of malaria it should be administered as follows: Four or five of the two-grain quinine to start treatment and repeat after six-hour intervals for a couple of days. It is important in cases of malaria to keep the bowels clear. The cathartic compound may be needed for this purpose.

Salol, Gr. 5:—This preparation is used as an intestinal antiseptic. Its use is indicated in that condition in which a person feels that something eaten is not "agreeing" with him. The eating of over-ripe fruit or other irregularities in the diet often seems to set up a fermentation in the stomach or intestines. Ptomaine poisoning also comes under this heading. Such a condition should be carefully attended to, as neglect might lead to something as serious as dysentery. The indications are colic or griping pains in the stomach, and the treatment is five grains of the salol dissolved in water. Don't spare the water.

Phenacetin Compound:—Phenacetin in some form is generally included in the medicine-case. It is used as a treatment for headache and neuralgia. Some danger attends the taking of this drug on account of its depressive effects, but these are reduced if it is taken in combination with caffeine in the following proportions: Phenacetin, four grains; caffeine, one grain. This can be had in one tablet or tabloid, so that no measuring is necessary. The dose is one of the above formulas taken with a little water and repeated after an interval if necessary.

Lead and Opium Lotion:—A convenient compressed preparation of this very useful item in our medicine-chest is lead acetate, two grains;

opium tincture, twenty minims, in the one product. One dissolved in a half-pint of water makes a sedative application for bruises and swollen parts. In a case of sprain, apply the above lotion to the swollen part, first cold; and when the comfort this gives the patient passes off, apply hot. Don't be afraid of applying plenty of the lotion to the injured part.

Corrosive Sublimate (Bichloride of Mercury): This is a very potent poison, in fact, so dangerous in the hands of a careless person that many people would not recommend that it be included in any medicine-case which is for the use of the "layman." However, we presume that, when warned, our readers will be able to take care of a little bottle of poison. There are various tablets of the preparation sold, and you should see that directions for making the solution are on the label. The one the writer prefers is a product of 1.825 grains in each tabloid. One of these dissolved in one pint (16 fluid ounces) of water makes what is known as a 1 in 1000 solution. It is an extremely powerful antiseptic. The absolute value of an antiseptic can be appreciated only by a doctor or a man who has suffered from something which an antiseptic could have prevented. A wound, a cut, or a tear from a rusty nail can, as everyone knows, cost a man his life. The safeguard against this is the application of an antiseptic. Wash a wound freely with the solution; and if you are treating a cut, wound, or sore, soak your hands in it before touching the affected part. Don't spare the antiseptic; it is cheaper than a dose of blood-poison.

The use of a few sundries, which should be included in the medicine-case, will now be indicated.

The Splinter Forceps:—A useful little tweezer-like instrument which, as the name indicates, is used for abstracting a splinter from the flesh. If ever you get a "sliver" under the finger-nail this little instrument will prove invaluable in the removal.

Court-Plaster:—If you get a little nick, cut, or abrasion that is not serious enough to call for a regular dressing, the sticking-plaster will be found useful.

Aromatic Ammonia:—Or smelling salts, which can be bought in little capsules to be cracked between the fingers when needed, are of value to revive a person in case of faintness.

The Clinical Thermometer:—This is used to give indications of the temperature in feverish conditions. To use the instrument, give it a few sharp shakes downward until the mercury drops to about 95 degrees. Place the mercury end of the thermometer in the mouth of the patient, under the tongue, and leave it in the mouth for a minute, the patient keeping his mouth closed and breathing through the nose. If the temperature reads about 98.4 it is normal, if above 100 the patient is in a serious state, and if above 105 the condition is critical. In fever patients the thermometer is liable to be bitten in two when placed in the mouth. If you think there is any possibility of this, it is better to take the temperature from the armpit. Just place the thermometer in the armpit and close the arm to the side of the chest. Do not start by taking the temperature in the mouth and then going back to the armpit and then after a while taking it by the mouth again. Stick to the one method all through.

There is a multitude of things we haven't dealt with, but this paper was never started with the idea of making it a complete treatise on all the diseases that flesh is heir to. If it has covered the most likely ailments and accidents to be encountered, it has fulfilled its purpose.

The complete medicine-case should also contain the following:

1 2 oz. package compressed cotton.
4 ¼ oz. packages compressed cotton.
1 package 6 yds. by 1 inch bandage.
2 packages 3 yds. by 1 inch bandage.
2 packages 3 yds. by 2½ inch bandage.
1 package 6 yds. by 1 inch bandage.
3 packages each containing 1 yd. of absorbent gauze.
Couple of surgical needles.
Small spool of surgical silk.
10 yd. roll adhesive plaster, ½ inch.
Small package adhesive plaster, 1 inch.
Safety-pins.

The Formidable List of One Domestic Pharmacy

Marion Harland (Mrs. Terhune), in this connection, has the following pertinent words:

"Thus runs a list I procured, lately, with the full permission of the housemother, who assured me that she had 'thrown away fifty bottles a month before, reserving such, only such, as were really useful, or likely to be needed':

"Cholera mixture, three bottles of as many different brands, two years old, and unopened; laudanum, peppermint, camphorated oil, spirits of turpentine, chloroform, witch-hazel; beef, iron, and wine (four years old); aconite, three bottles, and the same of belladonna; chlorinated soda, salicin and salicylic acid, acid phosphate and phospho-caffein, antipyrin, glycerine, and glycerine-and-whisky, Rochelle salts, hartshorn, valerian, nux vomica, lactopeptine; three greasy

bottles labeled simply 'Liniment'; arnica; six boxes marked 'pills,' with name of druggist and doctor, no specification as to nature and use; a box of camphor-and-opium pills, one of blue-mass-and-colocynth, another, ten years old, of Lady Webster's pills; besides twelve boxes and six bottles bearing no label beyond the druggist's name and number of prescription.

"'It does sound formidable and absurd,' said the collector, laughing as I read the list aloud, 'and I will at once throw away the nameless preparations. It is both useless and wrong to keep drugs of which nobody knows the nature, or the use.'

Spiced Vinegar for Cook's Rheumatic Shoulder

"I agreed with her more emphatically than I thought it polite to acknowledge. For I was sure that she was profoundly ignorant of the purpose and dose of at least two-thirds of the poisons kept in an unlocked cabinet within reach of the toddlers who had access to the sitting-room. I am as confident that hers is a favorable specimen of the average domestic pharmacy. In seven out of ten, the patent medicine holds prominence. The sums wasted annually upon these explain to the initiated how makers and venders of nostrums can pay hundreds of thousands for staring advertisements upon palings and barns; can bridge meadows with miles of placards, and force stones to utter forth their virtues. But an hour ago, my cook proudly displayed an embrocation that had cured her rheumatic shoulder in an hour. It was a dark fluid—nothing more nor less than spiced vinegar, judging from smell and taste—contained in a three-ounce phial. She had paid one dollar for what any pickle jar could give her. A dollar pint bottle is vaunted by my gardener as a sovereign remedy for 'neuralogy.' The label affirms it to be a 'nervine.' The gardener is a teetotaler, who boasts of never having tasted intoxicating spirits in his life. The 'nervine' is a decoction of some aromatic herb, the vehicle being bad whisky. It is in the interest of the human race—not of the medical profession—that I urge mothers to make righteous raid upon garrisons of gallipots and phalanxes of powders, and reduce home forces to a few familiar simples."

CHILDREN'S BOOKS

BY

EDWARD W. MUMFORD

EVERY educated man and woman knows that story-books are powerful influences in the moulding of character. How many parents study their purchases of children's books from this angle?

Jacob A. Riis has said: "Let the best—first and foremost for boys, Cooper's novels, Walter Scott, etc.—let the very best be pushed in the cheapest form, and so be rubbed in. . . . A boy would rather be good than bad; give him a chance."

Why not give the parent his chance also? He often buys ignorantly, accepting anything provided it is cheap and he thinks the child will read it. When convinced that he has been acting against his child's interest, he will buy better books, even at a higher price. His eyes will be opened if he can be persuaded to read for himself—out loud—the poor story-books he buys.

Every story cheap in quality, whether high or low in price, helps to make a cheap boy or girl, to lower the moral tone, to coarsen the character-fiber, and turn the child away from what is fine, true, honest, and worth while. Before he knows it, he has been cheated out of his noblest heritage.

An Enormous Output of Worthless Juvenile Books

With the demand for lower prices has come an enormous output of juveniles sold within the limit of the child's own pocket-money. They are bought by teachers to present to their classes. They are purchased for Sunday-school libraries, although many of them are grotesquely out of keeping with the teachings of the school. Many a parent who would promptly take John out to the woodshed if he learned that the boy was collecting dime novels, himself frequently adds to John's library a book quite as bad.

Characteristics of This Type of Book

This book—the commonest purchase to-day for a child of from ten to fifteen—is usually one of a series (several pages in the body of the story advertise the other books of the set). Its in-

fallible hero and his friends are invariably opposed by a despicable villain and an assistant who, although a little worse than the villain, is often reformed. The villain seldom reforms, as he is needed for the plot of the next book. The forces of vice and virtue invariably clash in the first chapter, and thereafter the villain stops at nothing that will injure the hero. If they are rival candidates for the position of pitcher on the school nine, the hero may expect to be assaulted by thugs at night. If it is a girl's book, the heroine (blonde) has a "dangerous enemy" (brunette) in the person of a rich schoolmate. The youthful villain, by the way, is almost invariably rich.

Books Hastily Written

These characteristics sound most unbelievably ridiculous, but they are found in scores of such books. It is amazing how often the same old plots and themes, revamped with a few allusions to modern boats, airships, and other inventions, pass muster as new stories. They are, of course, cheaply and, therefore, hastily, written. One writer recently produced in one year fifteen new books of this kind. Another well-known author easily surpasses this annual output by frank use of the factory method, outlining the plots, incidents, and characters to a corps of assistants, who submit their work for his final revision.

The Indictment Is Brought

Now the final verdict of the book-buyer depends upon his vote on certain counts in the indictment against such stories.

1. Do we wish our boys and girls to think straight?

These poor juveniles distort facts, make impossible feats possible. The young hero of one series builds and runs an airship with sleeping-berths and automatic control; has miraculous escapes from earthquakes, hurricane, and shipwreck; thwarts gangs of desperate men, captures bank robbers, rescues beauty in distress, and presents to his sweetheart diamonds worth thousands of dollars. In another, boy aviators reach the South Pole. In another "our hero" on a motor-cycle jumps a fifteen-foot gap in a broken bridge. In another, two poor girls of fourteen and sixteen attend balls and yacht parties given by the exclusive set of Newport. In another a girl says she has "a perfectly crazy desire to excite love." Do such books help or hinder the development of a love for fact and the habit of *straight thinking?*

2. Shall we teach children that honesty is the best policy?

The hero in these juveniles often wins his point by lying, evasion, or smart trickery.

Respect for Elders and for Learning

3. Should children learn to respect their elders?

The hero or heroine in low-grade juveniles almost without exception is in opposition to some older person. The hero is always proved right. The parent or guardian, or other person in authority, is as invariably wrong. Does the constant repetition of this make for discipline among young people, or the reverse?

4. Shall children be trained to respect learning?

In many modern stories of school and college life the teacher or professor is either a ridiculous butt for "pranks" (the advertising of such stories lays stress on the "pranks"), or is harsh, unjust, and cruel, and is, therefore, very properly exposed by "our hero." In stories involving modern invention, such as airships, etc., the teacher becomes a "scientist," around whom most of the fun revolves. It is always the "scientist" who makes absurd predictions, who is looking for "fur-bearing pollywogs" at the South Pole, who falls overboard, or has the tar spilt over him. Science in these books stands either for modern magic or for thoroughly impractical near-sighted blundering. Is that the view you wish your boy or girl to have?

Good Language, Good Manners, and Good Company

5. Should children be taught to speak correctly?

Will they learn the habit from books written in bad English, with much objectionable slang and many coarse expressions?

6. Is it desirable that our children should grow up well-mannered?

What is the influence of books which show boys employed in coarse practical jokes, and girls in hoydenish midnight pranks? A noisy frolic of boys and girls on the street at night is expressly condoned in one of these volumes. "What they were doing," says the author, "might be considered exceedingly out of place by a few strait-laced persons; but boys and girls will have their fun, even if it must sometimes be at the expense of other people."

7. Should our children's companions be carefully chosen?

Would you have your young people associate with a girl who would deliberately try to maim a companion by running into her while coasting; or a girl who would yell "Fire!" in a theatre to stampede the audience; or a boy who, seeing

another about to do a mean trick in a race, does it himself and does it first? Too many modern juveniles have such characters.

8. Is thoughtless, cruel mischief to be encouraged among children?

In one book of the sort we are discussing, "our hero" turns on the grocer's molasses-barrel spigot, puts a "tic-tac" on a poor widow's window (the author commends the "tic-tac" and tells how to make it), frightens a woman teacher with a live mouse, puts glue on the minister's chair, and pulls over a ladder, injuring a man and a woman. How would you feel about the influence of such a book if you were, for example, the grocer?

Judge Lindsey's Warning

Judge Ben Lindsey, of Denver, whose work among boys has made him a national figure, says: "I recall a gang of boys in my court. In the trunk of one, in an attic, were found hundreds of 'cheap juveniles,' and I think they had much to do with the misdirected energy and spirit of adventure in these boys, which, instead of taking the wholesome channels, took really to serious crime. The coarse, cheap appeal of some of this literature is certainly dangerous."

Read the Book You Buy before You Give It to the Children

These are some of the characteristics by which the false and dangerous story may be detected. If every buyer of children's stories will read what he or she buys before putting it into the hands of children, or into libraries for their use, such stories will be easily avoided. There should be, and is beginning to be, hearty co-operation between booksellers, parents, teachers, librarians, members of women's clubs, and all other enlightened influences in the community, to stem the tide of poor juvenile stories now on the market, and enlist public opinion on the side of literature that enriches and ennobles the child's mind.

But the individual bookbuyer can accomplish much by simply knowing something besides the price of the children's stories purchased. No parent or child-lover will long remain contented with the position, "It may be poison, but the boy likes it, and it's cheap."

CHILDREN'S PICTURES

BY

ESTELLE M. HURLL

It is hardly too much to say that no part of our home furnishings has so much influence on our lives as the pictures. They are the first thing we see as we enter a room, and by daily contact they impress themselves indelibly upon the memory. As people in mature life look back upon their childhood the pictures of the home sitting-room rise as clearly before their "mind's eye" as the faces of the family. How important, then, that they should be beautiful and inspiring, instead of mediocre and weak. Those of us whose childhood fell in the sixties and seventies were brought up largely on chromos and family portraits in crayon. In the more luxurious homes there were a few oil paintings and steel engravings. On the whole, however, the art resources of the average household were very meagre, previous to the invention of photography.

The Wonders of Nature and Architecture Captured by the Camera

The last twenty-five years have seen a complete revolution in these matters. People of the most modest means may now fill their homes with the same art treasures that millionaires enjoy—and all through the modern magic of process reproductions. The photographer has carried his camera into every corner of the earth. He has photographed the Pyramids of Egypt and the Parthenon at Athens, the Colosseum of Rome and Giotto's Tower at Florence; the Gothic cathedrals of England, France, and Germany; the castles of the Rhine and the ruined abbeys of Great Britain; the canals of Holland and the bridges of London; the scenery of the Alps and the Yosemite—in short, all the wonders of nature and architecture. Without setting foot out-of-doors one may travel all around the world in imagination, by covering the walls of the home with such views.

Process Reproductions Have Made Good Art Available for All

An even greater wonder of photography is the work which has been done in art museums. The camera has been taken into all the great galleries

of painting and sculpture, and has reproduced for us the world's masterpieces. The Greek marbles of the Vatican and the British Museum, and the works of Michelangelo and the other Italian sculptors of the Renaissance, may now be as familiar to the children of America as they formerly were to the children of Athens and Florence. The paintings of Raphael and Titian, of Holbein and Dürer, of Rembrandt and Franz Hals, of Rubens and Van Dyck, of Velasquez and Murillo, of Reynolds and Gainsborough, of Corot and Millet, are all within our reach, if we will put forth our hands to take them, not indeed in their original colors, but in delicately shaded monochromes, which interpret their original beauty with wonderful accuracy. The photographer makes his prints in many sizes and styles, and for various prices. He also passes on his plates to the manufacturers of so-called "process pictures," and these latter dealers make all sorts of reproductions, ranging in cost from several dollars to one cent each. So it would seem that almost every purchaser might be suited, both as to subject and value. In fact, one is almost bewildered by an embarrassment of riches, and it is best to give time and careful thought to one's selections.

Plan Suggested for an Imaginary Home—The Living Room

To make my suggestions more practical, let us plan the pictures for an imaginary home. The living-room, which is the gathering place of the family, should have pictures in great variety to suit all the occupants. We should begin by consulting father's taste. He is a man of action, and wants a picture which "means something." Turner's "The Fighting Téméraire," for example, with its simple, majestic grandeur, appeals to him. An old warship is being towed to its last resting-place. We never tire of such a picture, and every time we look at it, we see some new beauty. A good-sized reproduction of this subject is worthy a conspicuous place on the wall. Another class of subjects which men of average caliber usually find interesting are landscapes with animal figures, like the works of Troyon, Millet, and Rosa Bonheur. Millet's "Shepherdess," for instance, is a very satisfactory picture for the living-room, because it pleases all the family, from the father to the youngest prattler. The mother will enjoy some beautiful Madonna, as a subject appealing to her maternal sense as well as her love of beauty. No influence in the home could be purer and sweeter than the gracious presence of the mother Mary, with the Christ-child in her arms, a universal type of motherhood. Every woman has her own favorite among the multitude of examples to choose from, some preferring an "old master," like a Raphael or a Murillo, and others choosing some work of a modern painter, like Gabriel Max, or Bodenhausen. Let this picture be large enough to focus the attention.

Pictures of Far-Off Places and Famous Persons

Another feature of our living room should be a picture giving us some glimpse of the great world outside. Suppose we hang here a view of Lincoln Cathedral, or the Grand Canal of Venice, or some foreign scene which may have special interest to the family. The children delight to hear of these far-away places with their romantic associations. It will also add to the children's educational influences to familiarize them with the faces of the great men of history: poets, musicians, statesmen, and sovereigns. Over the book-case one may suitably hang portraits of Shakespeare and Dante, or our own Longfellow and Lowell, while near the piano the heads of Beethoven and Mozart are appropriate. A picture of St. Cecilia is also pretty for the music corner, and there are good examples by Donatello, Raphael, Carlo Dolci, and Naujak. The beautiful old legend relates how this saint played so enchantingly that her music drew the angels down from heaven to hear. Hence she is regarded as the patron saint of musicians.

The little ones' rights in the family living-room should not be ignored, and some pictures of child-life should have place there. Millet's "Knitting Lesson," or the picture called "Feeding Her Birds" (the "birds" being the three children), are choice subjects for this purpose. Velasquez's portrait of the little Prince Baltasar Carlos on his pony is also a charming child subject.

Let Your Selection of Pictures Mirror Your Own Ideals

Having decided upon the three or four principal subjects for the larger wall-spaces of our room, we may fill in with a variety of smaller pictures, always taking care not to overcrowd. Let them all be of a wholesome, helpful kind, making it a rule to have nothing which is not worth while. Groups of artistic post-cards in passe-partout frames often lend a pretty decorative touch to a narrow space between windows. Sometimes a good amateur photograph of some bit of natural scenery is an acceptable picture. In homes where the religious life is emphasized, a noble Christ ideal is appropriate. A photograph of Thorwaldsen's statue of

Christ, of Hofmann's Christ, or Holman Hunt's "The Shadow of the Cross" (called, also, "The Shadow of Death") are among the pictures of this sort that I have seen in artistic homes. The charm of the living-room, in the pictures as well as the furniture, is the individual character. Let us not get a picture merely because somebody else has it, or because a salesman says it is good, but because we believe it to be worthy and really like it. The decorations will then be the expression of our own ideals.

Passing on to the Dining-Room, Where Decorative Quality Is Desirable

The pictures of the dining-room are usually not so numerous or so varied as those of the living-room, and may be of a somewhat different character. As we see them only during meal times, they need not be quite so serious in aim. Decorative quality is especially desirable here, and for this reason the so-called "fancy heads" are in great favor. Portrait heads by Rembrandt, Franz Hals and Van Dyck are appropriate. These are strong and vigorous in character. If one wants something a bit more feminine, the so-called "Countess Potocka," Mme. Lebrun's "Girl with the Muff," and Reynolds's "Angel Heads" are good. Titian's portrait of his daughter Lavinia is charming in a dining-room. The young girl holds a salver of fruit and turns her face archly to the spectator. Another "fruit subject" is Murillo's interesting group called "The Fruit Venders," representing a boy and girl counting over the day's earnings. Breton's "The Song of the Lark" and "The End of Labor" are both appropriate as dining-room subjects in their suggestion of the labor in the fields by which our daily bread is won. Millet's "The Gleaners," "The Angelus," and "The Potato Planters" are of the same class.

Good Pictures Suitable for the Walls of the Nursery

The nursery, or children's play-room, should be a veritable picture gallery of joy for the little ones' amusement. Some good animal pictures are much to be desired here, for boys and girls alike are always found of pets. Landseer is the children's favorite dog painter, and there are good pictures of cats by Adam and Lambert. When one cannot find genuine works of art in this line a photograph direct from life is often a satisfactory substitute. Pictures of child-life hold the place of honor in the nursery. Heads of Prince Charles and Prince James by Van Dyck are attractive subjects, and the children like to hear about these little royalties whose after life was so full of thrilling adventure. The "Bambini," or babies, from the Foundling Hospital in Florence are delightful pictures. These figures are in terra-cotta work by Andrea della Robbia, a row of medallions decorating the front of the old building. No babies were ever more lovable and appealing. A goodly number of angel figures from the works of the old masters have been circulated by picture dealers and these are well-loved by children. Chief of all children's favorites are the works of Sir Joshua Reynolds. This great English artist loved children so much that he was not content with painting a multitude of child portraits, like the vivacious little Miss Bowles and the sturdy Master Bunbury, but he delighted in all sorts of ideal subjects, like "The Strawberry Girl," "The Age of Innocence," "Simplicity," and "The Infant Samuel."

Pictures which tell a story should have a conspicuous place in the nursery. Illustrations of familiar myths and legends are especially valuable. Raphael's "Saint Michael and the Dragon" is a noble conception of the triumph of good over evil. The "Aurora," by Guido Reni, pictures the beautiful old myth of the sun-god Apollo driving his coursers across the sky in the wake of Aurora, while the Hours circle around his chariot-wheels. Pictures from the life of Christ give the highest touch to the nursery decorations. A Nativity scene like Correggio's "Holy Night," Lerolle's "Arrival of the Shepherds," or Lorenzo Lotto's "Adoration of the Shepherds," may be coupled with Hofmann's "Boy Christ in the Temple."

Boys and Girls Should Develop Taste in the Choice of Pictures

Growing boys and girls should be encouraged to fill their rooms with pictures of their own choosing. Even if they make mistakes, the experience will help towards forming their taste. They usually get together a perfect medley of decorations: posters, souvenir programmes, college pennants, colored postcards, valentines, photographs of their chums and snapshots of familiar places. In the midst of this assortment may be two or three really good subjects which have come to them as Christmas or birthday gifts. We should be likely to please young America with the "Horses of Achilles," or the photograph of an Indian chief, but his sister would prefer one of Fra Angelico's angels or Greuze's "The Broken Pitcher." Ideal heads are very pretty for young people's rooms, and by making attractive selections from the old masters

one may direct the taste in right channels. For a boy, Michelangelo's "David" or Andrea del Sarto's "St. John Baptist" are good choices. For a girl one may find lovely subjects of saints and angels, like Palma Vecchio's "St. Barbara," Andrea del Sarto's "St. Agnes," or the Melozzo da Forli angels. A beautiful head is that of Guido Reni's archangel in his great picture of "St. Michael and the Dragon" in Rome. The boy's taste will naturally turn toward the strong and athletic, while the girl's imagination is quickened by more poetic and spiritual ideals.

The Proper Setting Necessary

The successful decoration of a house depends upon various conditions besides the selection of subjects. In the first place, the wall hanging should form a good background for pictures. A plain tint, or a two-toned pattern, is most effective. The pictures and paper should also harmonize in color, a soft brown showing well against terra-cotta, and gray tints against green. Artistic photographs are now printed with a dull finish instead of the shiny glazed surface of the old-fashioned solio prints, the brown photographs being known as carbons or sepias, and the silver-gray as platinum prints. The list of available subjects is constantly being increased, and new effects in reproduction are being attempted. Let us see to it that the pictures we buy to-day are so well chosen that they will be worth handing down to the coming generation.

HOME HELPERS

BY

CHRISTINE TERHUNE HERRICK

THE first person of whom one naturally thinks in considering the subject of home helpers is the domestic. There may be one general servant; there may be several maids; but the policy controlling their direction should be the same, no matter what the number. Justice; system; consideration, are the foundation-stones of the business of keeping a house. To manage and direct a home properly, the mistress must herself understand the work of the establishment. Lacking this knowledge, she either puts her interests into the hands of a maid who, if competent, may also be unscrupulous and take advantage of the employer; or who, if conscientious, may be ignorant and waste as much through carelessness as the dishonest hireling takes by pilfering.

The Mistress Should Be as Frank regarding Drawbacks as She Is about Merits

When engaging a servant, the prospective mistress should state clearly what are the duties and the privileges of the place. She is wise if she withholds none of its drawbacks as well as its merits. If she has a good deal of company she should say so at the outset; she should declare in so many words what share of the work she expects to take herself and what she will demand from the maid; she must tell precisely what days and evenings out are granted and what other liberties are permitted. "But if I told all about the place the maid might not come!" someone may protest. Far better, I contend, to have the maid know in advance and refuse to accept the situation than to learn, after she is engaged, what she has to do and then discharge herself or force the mistress to get rid of her! I know of few experiences more trying than breaking in a new servant to her duties; showing her the way of the house, directing her how you wish to have certain tasks done—and then to find her incompetent or unpleasant to deal with and be forced to part with her and go over the whole tiresome business again. Occasionally, the process has to be repeated several times before the right kind of mistress and maid get together, but there is no sense in tempting Providence by taking into your employ someone who evidently has the possibilities of disappointment in her disposition or her training.

Patience and Kindness Are Necessary in Dealing with the New Employee

Once the maid is engaged and in the house, a large supply of patience should be laid in by the mistress. The new employee is not necessarily stupid because she tests one's supply of tolerance; but just because she is new she will be slow to comprehend the conditions which surround her. We make the error often of demanding from our maids more intelligence than we would ourselves display in similar circumstances. Which one of us if dropped into a novel environment; surrounded by total strangers whose very method of expressing themselves was

different from ours; set to duties which might be in a measure familiar to us, but had been discharged in other places and with other utensils, would at once take hold of our new duties in a way to do us credit? Most of us who judge our domestics by severe tests, have had certain advantages of training which have enabled us to meet exigencies and unknown associates with some degree of calm and self-confidence. Not so with the majority of our employees. They come from alien homes; they are brought into changed conditions; they have had only elementary education in many cases; and however quick they may have been to encounter emergencies in the life to which they had become accustomed, they must now learn to adapt themselves to a variety of practically unknown details before they can adjust their mental processes to grasp orders given to them in new phraseology by strangers.

Give Directions in a Considerate and Pleasant Manner

All this should be borne in mind in dealing with the home helper who comes as a freshly-engaged employee. The law of kindness, which should regulate the entire government of the household, is never more necessary than in dealing with the new maid. Not only necessary but wise in such consideration, since the sharply-spoken order, the harsh rebuke, often seems to paralyze the perceptions of the blunderer. A direction that is given gently and slowly, in a pleasant voice and with a kindly manner, is far more likely to be comprehended than one conveyed curtly and brusquely. A saying that has become familiar to us by its use in offices and public places applies well here: "The voice with the smile wins!"

The patience already recommended will be needed for more than the first instructions. The ordinary maid is only an average human being after all, and will forget again and again. She will have to be told repeatedly to do various simple duties, just as our children must be informed over and over that this or that must be done, and how. It may help us to be tolerant if we will dwell upon the thought that even we do not always recollect to do everything which we should discharge regularly and promptly—that each one of us has to her account the forgetfulness of the letter which should have been written, the call which should have been paid, the message which should have been delivered.

"Nothing Else to Think of but Her Work"

"That is her business, though," said someone, when I pointed out to her that her forgetful waitress was not necessarily on the verge of imbecility because she had omitted to report the lack of something needed for the dining-room service. "If I had nothing else to think of but my work I should remember its details, I know!" But the waitress *has* something else to think of besides her work, just as her mistress has. The maid is likewise a vertebrate being; she has her own joys and sorrows, her own health, her own family, her own financial circumstances, her own differences with her lover or her friends, her own anxieties as to those she loves, her own disappointments and bitternesses. She does not renounce all share in a common humanity because she is engaged in domestic service. It is only fair to bear these things in mind when considering the shortcomings and transgressions of our home helpers. Do we always perform so blamelessly every duty connected with our vocations that we can afford to criticize the maid-servant within our gates?

You Cannot Handle a Household as You Would a Business—System is Possible, but Not Hard and Fast Routine

One of the aspersions cast upon housekeepers is that they do not run their homes on a business footing. "Why don't you run your house as I do my office?" is a query that has been addressed to many a wife by her husband—and more than once. Well, one reason for it is that an office is an office and a home is a home. In the office, business methods prevail—or are supposed to prevail. (I have known offices that were as topsy-turvy as the worst-kept house I have ever seen!) The employees arrive at work at a fixed hour; they have their special duties assigned to them; they attend to these as directed; they have a certain time allotted to them for lunch; they leave for home at a fixed hour. Why shouldn't an office that can be thus conducted be run on business principles?

In the home it is an altogether different matter. The human equation rules everything there, as the business principle dominates the office. The breakfast hour may be immutable, but the individuals who gather at the table bring their personalities with them. One is late and slow, another is late and hurried. Each one of these demands attention; and since the house is supposed to be run for the family and not the family for the house, everyone feels his inalienable right to consideration. What becomes of your business principles in the midst of these opposing characteristics? Or there is illness in the house and forthwith the invalid becomes the centre around which everything must revolve.

Each routine of the establishment is changed, the order is broken, the effort for systematic management is put to rout. Or unexpected company arrives and the outline of the day's meals and occupations must be changed. You cannot handle a household made up of human entities as you can a business composed of material items, important as these may be.

So to my mind it is wise to dismiss the idea that a home can be managed like a factory or a mercantile establishment. System there may be and should be, a regular sequence of duties and cares; since such a habit not only spares housekeeper and maids, but also insures regularity in the direction of the home and the discharge of the work of its various departments. But always it should be recollected that, as Shakespeare says, "nice customs courtesy to great kings," and that when comfort or kindness, hospitality or illness, intervenes, the head of the house shows her fitness for her position by recognizing that the chief object of the home is to promote the well-being of those who dwell in it and not to make a showing as a perfectly-managed industrial or technical laboratory. This human note appeals far more to *all* home helpers than any kind of hard and fast routine, needful as this is in its place. The hired maid is a valuable factor in home-making and house-keeping; but there are others who have an even more important station. I say nothing of the wife and mother, who is the prime helper; because, after all, she *is* the home! What would the household be without her except a sort of "fortuitous concourse of atoms?"

Other Home Helpers—Recognize Their Service and Let Them Feel That You Realize Their Value

The others who stand next to her in degree as home helpers are those blessed members of the household who share with her in her lovely work of creating a home. Sometimes they are mothers, grandmothers, aunts, or cousins; sometimes they are the children who have grown into their part in the house as helpers in active employment as well as items that aid in making it beautiful. They are often taken for granted—too often! There is one plea I would make for all of these unsalaried toilers, no matter what their age or position. The mother of the family holds her post by choice. No one forced her to marry and become the head of a home, with all its duties and cares as well as its joys. But the others have come into their places by accident or by necessity. They are working their way through life for shelter and clothing, sometimes; occasionally because of the love they bear the other members of the household and the desire to lighten the burden of work and care. Let them feel their importance! Don't take them altogether for granted! Have we not all known homes where the elderly relative or the young girl had drifted into a position of drudgery? She works harder than any paid employee would consent to do and she can't discharge herself when her task-mistress is unreasonable or harsh. Circumstances keep the worker where she is; and this alone ought to compel consideration from those for whom she toils. Is this always the case? Is it even often found that the necessity of the worker calls forth the tenderness and the appreciation of those who, as the saying goes, "give her a home"—a home for which she pays too frequently in heartache as well as in backache? Would it not be well for some of us who are independent of hired help to ask ourselves why, and to examine our records to see what wages we are giving those helpers who, by their unrecompensed labor, save us the outlay of actual money for the service of our homes?

HOW TO MAKE HOME ATTRACTIVE

BY

MRS. THEODORE W. BIRNEY

How to make home attractive is not so difficult an art to acquire as many parents imagine. Some men and women possess this art by nature, but it is possible of attainment by all who are willing to study the subject systematically. The first requisites for real happiness in any home are an abundance of faith, love, justice, and sympathy. Love for each other is usually a natural state of affairs among the members of a family; love of justice is more uncommon, yet without the latter attribute there can be no lasting harmony in the house. Love is often inconsiderate in its demands; justice exacts only what is right. It is most important, therefore, that

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parents continually strive to be just themselves and to strengthen and develop that sense of justice frequently manifest in the smallest tots.

There are homes in which even a casual visitor receives an impression of restraint; there are others in which the atmosphere is such that one unconsciously expands in its genial warmth, and without effort gives the best that is in him. This indefinable atmosphere of brightness and hope is not dependent upon material surroundings, since it is often lacking in homes of splendor and luxury, while some humble cottage may be filled with it.

A Contrast between Two Rooms

Still, the material conditions are powerful in their influence and should never be ignored. Mothers and fathers should endeavor to furnish their homes as attractively as their means will permit; of course, the result of the expenditure of sums either large or small is dependent upon the taste of the purchaser and the consideration given the matter. I have in mind two rooms: one represents an outlay literally of hundreds of thousands of dollars, while the other is easily within the reach of a very modest purse. The first room is a museum, the second the artistic *living-room* of a happy household.

Drawing up a Family Contract

An effective way of establishing happiness in a home is to call all the members together and form a partnership, with father and mother as the senior members of the firm; each child is apportioned some special work which contributes directly or indirectly to the comfort of all the others. A contract is drawn up somewhat after this fashion:

"We, the undersigned, love each other with all our hearts, and we want to do all we can to make our home the happiest place in the world. We will try always to be patient, kind, and thoughtful, and to do cheerfully, and to the best of our ability, whatever our part of the household work may be. We will try to close the doors after us in winter, and not to bang the screen doors in summer, to remember to use the doormat in muddy weather, to keep our things in order, to put the hammer back in place," etc., etc., etc.

On occasion children are delighted with a certain amount of form and ceremony, and pleasure will invariably be derived from the drawing up of the contract, its impressive reading by father or mother, the discussion of it with further suggestions from the children, its final adoption by a unanimous vote and lastly, the affixing of signatures, even the four-year-old having his hand guided, his name appearing in big, scrawly letters which differentiate it for practical reasons from the other signatures. Once a week the contract should be read aloud to the assembled family; no one should ever publicly be accused of having failed to live up to its spirit, but it should be tacitly understood on such occasions that acknowledgment and apology should be made for specific shortcomings during the week past; that is, such shortcomings as affected the entire or even greater part of the family.

Developing in the Child the Idea of Individual Responsibility

The majority of people who have been of the greatest service in the world are those who were capable of taking responsibility; it is one of the surest methods of development, and it is amazing to see how quickly even very young children will respond to its influence. It is this idea of individual responsibility that renders the household contract valuable. As far as possible each child should be made to feel the responsibility of the happiness of the family. The boy must not be boisterous in the house, because little sister is just going to sleep, or sister is practicing, or mother is writing, or because he might get into the habit of being boisterous indoors. If he persists show him his signature to the contract and ask him if he wishes to withdraw from the firm. The same principle would be applicable to a hundred cases. Consideration for others is a lesson to be well learned in childhood, for it is that which lends to social life its charm and grace, and gives to the world its most successful reformers.

Household Frolics Shared by the Entire Family

There are innumerable methods of making home attractive. Some of the most tenderly remembered in after years are such games or amusements as are shared by the entire family. What joyously thrilling and exciting times are those when father and big brother play bear, when mother and all the sisters are unexpectedly attacked while walking through the woods (literally the hall), or when the Landing of the Pilgrims and other events of historical interest are enacted! The over-careful student of child nature must keep in mind that the children are not really frightened by the bears, but filled with wild merriment and glee which quickens their circulation, fires their imagination, and does them a lot of good generally. However, such frolics are not usually good for children just before retiring, nor are stories adapted to that hour.

The child's last waking impression should be one of order, and he should always carefully put away whatever material he used during the evening. A chest of drawers or a closet with numerous shelves is invaluable in the living-room for such purposes, and each child should have some space allotted for his especial use.

Pillow Fights—Reading Aloud—Instructive Games

Pillow fights have a peculiar fascination for children, and I would suggest to the mothers who refuse to countenance them in the house, to cover some old sofa-cushion with colored wash-slips and let the children use them in the back-yard or on the lawn; this is rare sport for a chilly autumn day. Reading aloud is one of the most delightful features of home life, and books of travel, adventure, and history are admirably adapted for this purpose. The hour directly after the evening meal should belong to the youngest children, and as soon as they have retired the older ones are entitled to a half-hour or more with father and mother. There are many good games to be had at the book and toy shops, games for strengthening the memory, familiarizing the players with historical events, and quickening the powers of observation and concentration.

Anniversaries and Holidays May Be Made Profitable

Wedding anniversaries, birthdays, and holidays of all kinds are given due prominence by the makers of happy homes. The children are pressed into active service in all the preparations for such occasions, and these same preparations entered upon with so much interest and enthusiasm afford an opportunity for the teaching of much that is useful.

The work for Christmas may be commenced weeks, even months, ahead, and it will be a wild and surly fellow, indeed, who cannot be lured into spending many evenings at home, absorbed in the manufacture of various articles, from a toy cradle to a glove box or set of shelves for magazines, provided he be supplied with the proper tools for such work, and given some instruction in their use. It is profitable to anticipate the anniversary or holiday by reading aloud all that is known concerning its origin, celebration, etc.

"Dressing up"—Entertaining Friends—Gardening

Children delight in "dressing up," and a small masquerade party is always voted "great fun." The costumes may be of the simplest sort and of impromptu manufacture. It is the mystery of the little mask which mamma cut out of a scrap of black or white cloth which gives dignity and novelty to the entertainment.

One mother whom I know has a trunk in the attic to which she consigns all manner of shabby finery, in which the children disport themselves on rainy days. Another mother has a huge scrap bag the delights of which are reserved for days when the children seem to get up on the wrong side of the bed. Each child is allowed to select four different pieces, and the distraction of selection from such a variety of pieces of every color and design invariably produces a soothing effect, save where the choice of two falls upon one precious piece, and then there follows amicable adjustment by a drawing of straws.

Children as well as the older boys and girls of a family should occasionally be allowed to invite a friend to luncheon or tea. In the case of younger children the invitation should be a written one, as mothers often decline verbal invitations of young children, fearing lest they be extended without the knowledge and consent of the other mamma.

If space permit outdoor gardening, the children should be given each a plot of ground and encouraged to cultivate both vegetables and flowers. Where this is not practical they should be given the care of house plants.

The Influence of a Wholesome, Happy Home Life

It would be a great step forward if parents, instead of grieving and worrying over the fact that a son or daughter has formed evil associations, would set to work with all the zeal they can command to provide counter attractions at home. Though parents may not approve of some of their boys' associates, it is better even to invite the latter to their homes, in case their boys will not give them up, than to have their sons meeting them surreptitiously in undesirable places.

Sydney Smith says: "If you make children happy now, you will make them happy twenty years hence by the memory of it." Such effort has the most beneficent, rejuvenating influence on the parents themselves, while the great majority of children who have had a wholesome, happy home life, have always with them, through memory and association, one of the strongest possible incentives to right living.

I believe in beginning the day with family prayer, and each member of the household should read a verse or two from the Bible; in addition the father or mother can read some helpful and

inspiring paragraph from some of the "year-books," and if the prayer is a brief, earnest appeal for help to meet all the duties of the day, a note of harmony will be sounded to which the hearts of all will respond in a greater or less degree.

BOOKS ON CHILD-STUDY FOR MOTHERS' READING

BY

NORA ARCHIBALD SMITH

"It is clear that in whatever it is our duty to act, these matters also it is our duty to study."

Training for the Vocation of Motherhood Has Been Wofully Neglected

THE career of motherhood, as Herbert Spencer said long ago, is the one which most women take up, but is also the one for which, by a profound educational inconsistency, they rarely receive any especial training. This is to be explained, no doubt, by the hypothesis that on the capacity for bringing a child into the world hangs also the ability to train and educate it; and this, thanks to a beneficent Providence, works out fairly well. It is true, also, that the child is a self-educative being and can be trusted to do a good deal of training of and by himself; but even with all these aids to development, much is lacking which, if not supplied, will leave him stunted and imperfect. The education which an ignorant mother can give, though supplemented by instinct and heart-wisdom, must still be deficient in many directions, and even though the experience she gains with her first child helps her materially in training the second and third, yet there is no reason why her unfortunate first-born should be used as a "whipping-boy" for the correction of his brothers' mistakes.

So far as I know, there is no profession save that of motherhood upon which a votary enters without the least preliminary training or experience, and whose devices she is commonly supposed to spin out of her own interior, as a spider does his threads. It is not surprising, when we consider it, that these devices are frequently not of the best quality and sometimes refuse to appear at all. Yet there is no conscientious mother but yearns to do her best by her children and yearns for help in all her problems, while handicapped by ignorance of where to seek this help.

Some Knowledge of Educational Theories and Their Results Is Valuable

Here a general knowledge, imparted in school along with other branches, of what has been done in child-training in all ages and all countries, would be of immense value. The science of pedagogy is by no means an exact science, but enough is known of its basic principles to serve as a rough guide for the traveler, and at least by learning of its greatest pitfalls we may avoid stumbling into similar ones. No young woman, however, in all her fitting for the duties of maternity, ever hears so much as a hint of the science and traditions of pedagogy, unless she be a student in a normal or kindergarten training school, and the proportion of these students to the universe of mothers is as a grain of sand to the Rock of Gibraltar. Yet the history of educational theories and their results is a vitally interesting one and would be so to any intelligent girl, no matter what her bent of mind, since it deals with the human, personal, emotional aspects of life, which are a woman's by inheritance.

Good Books on the Principles of Education

Such a little book as Oscar Browning's "Introduction to the History of Educational Theories" would be easily and pleasantly read and digested by any mother; and hear how well he makes his plea for his work in his preface: "The history of educational theories may be of practical use to teachers (and mothers) in two ways," says Browning; "it may show what is the historical ground for retaining existing practices in education or for substituting others; and it may, by telling us what great teachers have attempted, and what great thinkers have conceived as possible in this department, stimulate us to complete their work, or to carry out their principles under easier conditions. The dead hand of spiritual ancestry lays no more sacred duty on posterity than that of realizing under happier circumstances ideas which the stress of the age or the shortness of life has deprived of their accomplishment." I hold no brief for Oscar Browning, of course, and merely recommend the book as brief and clear and simple.

Robert H. Quick's "Essays on Educational Reformers" is equally interesting and somewhat

more comprehensive, but even in so small a volume as William N. Hailmann's "History of Pedagogy" one can learn in a concise form of the important principles that have been found to underlie all education.

Educational Psychology in Simple Form for the Mother

Of physiology, which is the science of the body, we all learn more or less in school, so we are supposed to have some idea, at least, of the natural laws which govern the child's growth, of the results of disobedience to these laws, and the means by which they may be enforced. Of psychology, which is the science of the mind and soul, we generally have no knowledge whatever, unless as teachers we have been obliged to "get up" a certain amount in order to pass a satisfactory examination. Yet if we know nothing of the nature and order of the faculties of the mind and soul, nothing of the laws of activity and growth of the mental and moral powers, how are we to attempt to train them? It would be as absurd to do so, says Mrs. Louisa P. Hopkins, in her "Educational Psychology," as to attempt to produce a sonata while ignorant of the phenomena of sound and the laws of musical composition and harmony.

A Brief List of Recommended Books

The science of psychology is probably too abstract, too difficult of comprehension, to be taken up with any thoroughness by a busy mother and housekeeper, but such a little book as the one above mentioned ("Educational Psychology") will give light on many problems which perplex her and, supplemented by love and sympathy, will aid her in translating the thoughts and motives of the child-mind. Another book by the same author, "How Shall My Child Be Taught?" has proved of great service to many mothers and teachers.

And here we come to child-study, which is really the preparation of data on which the science of psychology may rest. We have high authority for believing that women never carry out this kind of work with any such enthusiasm as men apply to it,* but possibly, while we rock the cradle, we may persuade ourselves to read what our over-lords have collected on the subject. Bernard Perez's "First Three Years of Childhood," "Children's Ways," by James Sully, "The Mind of the Child" (in two parts), by W. T. Preyer, "Intellectual and Moral Development of the Child," by Gabriel Compayré, are all absorbingly interesting books; and although they have been compiled by women, "A Study of a Child" (Louise E. Hogan), and "The Biography of a Baby" (Milicent W. Shinn), are substantial contributions to the subject.

*"The Feminizing of Culture," by Earl Barnes—"Atlantic Monthly," June, 1912.

The Unique Service of Friedrich Froebel Fully Explained

And then there is Froebel, "the father of child-study," and no article on what mothers shall read would be complete without reference to his writings. There is nothing that he ever said concerning children, their growth and development, their three-fold nature, their activities, their favorite occupations, their plays, their religious and social instincts, their hopes and fears, their ambitions and aspirations, which is not interesting and suggestive. There is no educator of greater insight than he and no one who, "seeing in every child the possibility of a perfect man," keeps more fully before the parent and teacher the end which their ministrations may subserve.

Froebel's "Autobiography," his "Education of Man," his "Letters," and last and greatest, his "Mother-play" (edited by Peabody and others), should form part of the library of every mother and should be read until they become second nature. True, they are at first by no means easy reading, but one grows accustomed to the somewhat involved style and learns by and by that it is not so much the language in which the ideas are clothed that makes them difficult to understand, as the fact that the ideas themselves are larger and higher than those we commonly entertain, a kind of giants walking among men.

Froebel's "Mother-play" Is Full of Quaint Charm

Froebel's "Mother-play" is the only book of its kind, and though you may consider its pictures crude, its versification faulty, its music unmusical, yet since its publication in 1843 no one has so much as attempted to compose anything upon the same lines. It is unique; and, with all its imperfections on its head, it will stand forever as a monument to the memory of the German seer and prophet. Froebel believed that a family picture-book, such as he desired the "Mother-play" to be, should contain something for the parent as well as for the child, and so above the words of each play intended for the little one is always a motto conveying its deepest truth.

The quaint old pictures, too, with their figures in mediæval dress, are crowded with detail

which, while it injures their artistic value, adds immensely to their spiritual worth. It is the experience of all kindergarteners that children greatly enjoy these pictures, and when they are reproduced in enlarged form delight in searching out in this part of the page, or in that, some fresh illustration of the lesson they are intended to convey.

Fresh Inspiration for the Mother's Daily Task

The book begins with a few preliminary verses descriptive of a mother's feelings on seeing her first-born child, of a mother who realizes that her life is one with her baby's life, of a mother at play with her little one, or watching and wondering at its steady growth. Part of the mother's motto to the sixth of these preliminary verses is as follows:

"If you feel that there is bliss
In such simple thought as this:
'I am sun from hour to hour
To a little human flower,'—
All is well,
I can tell.
For wheresoe'er the sun's rays softly burn,
The inmost hearts of flowers and children turn."

This is not poetry of the highest kind, if you judge it by externals, but if you test it by the content, how does it measure? The book goes on with fifty baby-plays and songs which Froebel collected from peasant-mothers, saw in use, or adapted to suit childish needs, and each has its motto and its appropriate picture, all of which are carefully explained in Froebel's own words at the end of the book. No woman ever realizes, I believe, what deep meaning lies in childish play until she has studied this volume; and no mother, even the most careless and indifferent one, can scan its pages without fresh inspiration for her daily task.

Other Inspirational Volumes Recommended

For inspiration also I would have every mother read Pestalozzi's noble volumes, "Leonard and Gertrude" and "How Gertrude Teaches Her Children," and learn how a poor and ignorant man may mold the world with his ideals. It is well to read them in abridged form, for Pestalozzi's style is too diffuse for this hurrying, modern world, but no abridgment can lessen the value of the good Gertrude's example as her love and devotion worked its magic spell and overflowed from the domestic circle into the community.

I would have every mother read Rousseau's "Emile," too, as it may be found in extracts in Heath's "Educational Classics," for instance, and learn how his educational gospel inspired Basedow, Pestalozzi, and Froebel, and how it had its share in bringing about the French Revolution; while the principles it inculcated were thirstily imbibed by our own American patriots and heroes. It was a mother who, by asking Rousseau's advice, inspired him to write "Emile," and though many of the reforms he advocates are everyday matters now, yet they were in their time so revolutionary that the book was burned by the public executioner of Paris and the author ran great risk of going up in flames with his immortal work. And Richter's "Levana" I would have mothers read—Richter, better known as "Jean Paul," whose works were at one time a rage among the educated women of Germany, and whose aphorisms have long since passed unquestioned into the history of education.

Nor would I omit Herbert Spencer's famous essay on "Education" from my list of books, nor Locke and Montaigne in extract form, if leisure serve for nothing more. It was the wise Michel, Seigneur de Montaigne, who said as long ago as 1550 that the greatest and most important difficulty of human science is the education of children, and the saying is equally true to-day, although nearly four centuries have passed.

EDITORS' NOTE.—Other books on child-study strongly recommended for mothers' reading are: "The Children of the Future" and "The Message of Froebel, and other Essays" (Nora A. Smith), and "Children's Rights," written by Miss Smith in collaboration with her sister, Kate Douglas Wiggin.

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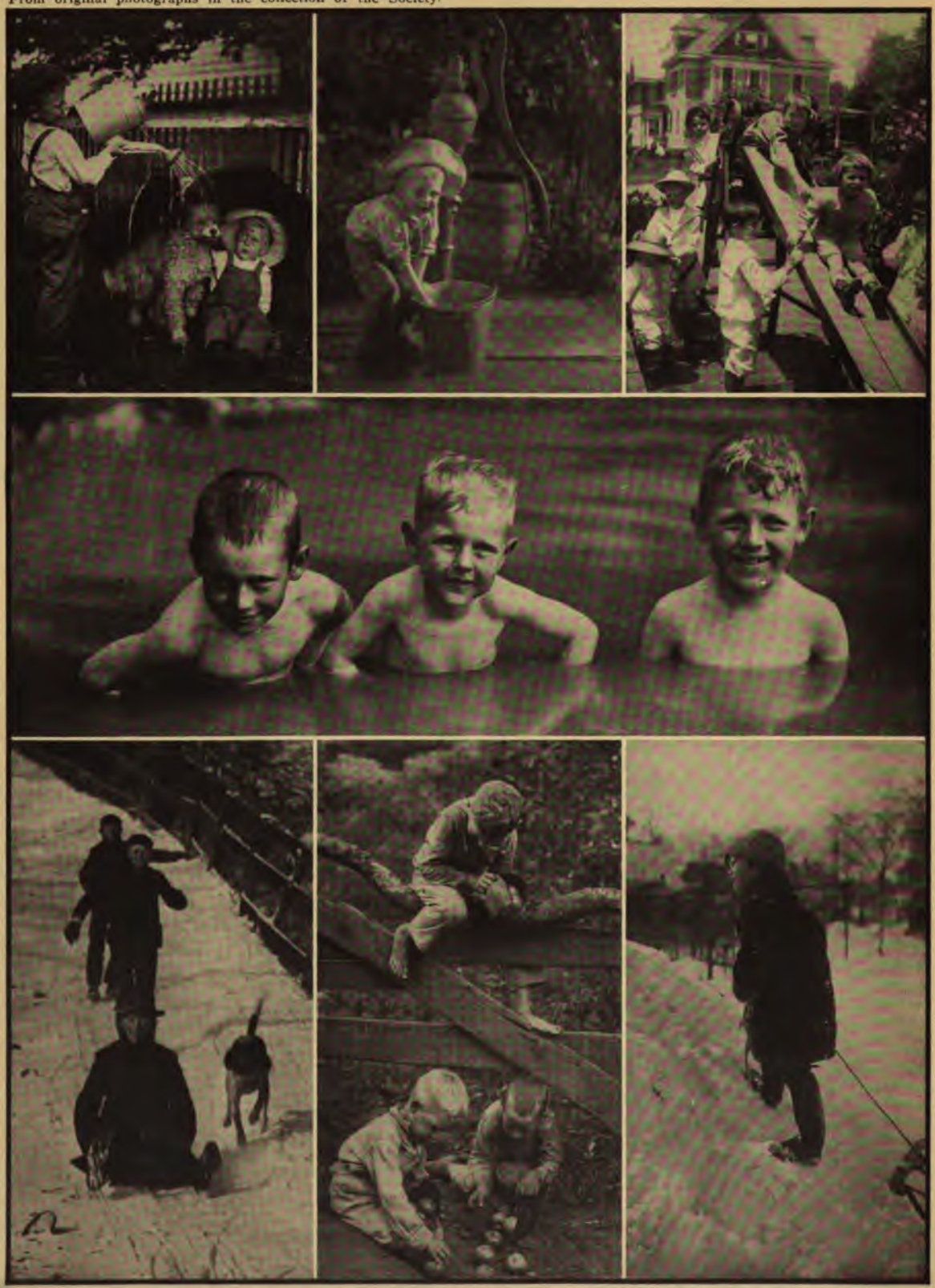

"*YOUNG* BARBARIANS ALL AT PLAY"

3. Spiritual Equipment

THE MAN IN THE HOUSE

BY

CHRISTINE TERHUNE HERRICK

WHAT does home mean to the average man?

One answer to this may be that it depends largely upon the man. To one home means little besides a place where he can eat and sleep, to another it is a domain for his wife and children to run and enjoy, while he boards there and foots the bills, to a third it is his kingdom, his place of rest, the spot where he feels most at ease and content. The third meaning embodies what home should always be to a man. Is it his fault or his wife's that in so many cases their abiding place is something quite different?

Who Is to Blame When the Reality of Home Falls below the Expectation?

Probably there are few men who start in on their domestic life without the intention that home shall for them stand for joy and peace. Doubtless it is the intention of nearly every woman that her home shall be an earthly paradise to her husband as well as to herself. Who is to blame when the reality falls far below the expectation?

Again the answer is determined by circumstances, and one of the greatest of these is the difference in the point of view of the man and the woman. Each has an ideal, but the two don't agree. The woman feels that the house is preeminently hers. She takes care of it, she holds herself responsible for its condition, she spends her time and her strength in making it all she thinks it should be,—sometimes losing sight of the fact that perhaps it might be well to consider her husband's notions of how he would like the house conducted. He, on the other hand, feels, with some degree of justice, that it is his money which keeps up the establishment and that it is only reasonable this should be managed in accordance with his preferences. In other words, each has a tendency to claim rights and to look upon the rights of the other as privileges.

Take the Matter of How the House Shall Be Furnished

It must be granted that, as a rule, the man yields his own wishes pretty generously. His wife has things a good deal her own way. Take, for example, the matter of how the house shall be furnished. Does the average man like the fashion of the furniture of his home? Does he really enjoy polished hardwood floors with rugs skating around on them, and walls covered with art papers of nondescript tints, and light ornamental chairs, and rich or heavy window draperies which cannot be swept aside to admit light enough for him to read the morning paper comfortably? Does he care for the pictures his wife hangs on the walls, and the way in which they are framed? and is he fond of divans piled high with cushions and of much mixed bric-à-brac? I trow not.

The Author Pokes a Little Feminine Fun at Average Masculine Taste in Interior Decoration

Get the everyday man into the confessional and find out what he honestly likes in the way of household decoration and furnishing, and you will have a new sensation. If he is absolutely truthful he will own that he thinks a carpet which covers the entire floor and goes into all the corners is more satisfactory than any parquet floor and loose rugs ever perpetrated. He will acknowledge that he prefers good plain furniture which is big and strong and comfortable to any number of fancy fauteuils and Turkish effects. If pushed to it he will declare he has always liked a white wall paper with some gilt in it better than any other kind and thinks pictures show on that to greater advantage than on any other background, just as he feels that pictures in gilt frames with plenty of white margin are preferable to art prints in dark settings. He likes a picture which tells a story, too! And he thinks most bric-à-brac a clutter, and from his soul he loathes draperies which exclude light and sunshine. "A nice white curtain which can be washed when it is dirty is good enough for me," he will aver.

Now, I do not mean to say that all men feel like this. Nor do I mean to claim that a woman should give up all her own likes and dislikes in

deference to those of her husband and furnish her house altogether in consonance with his views. After all, she is in the home far more than he is, and it is only fair that she should have the casting vote in its arrangement. The plea I advance is that she should try to grasp the fact that her husband is probably making many concessions, even though he says little about them, and that appreciation of this should lead her to consider him in certain ways she sometimes overlooks.

A Wife, Even though She Does Not Countenance Her Husband's Theories on Furnishing, Should Somewhat Indulge Them

For instance, if her drawing-room is adorned to suit her tastes, she should try to plan a place where her husband can have things as he wants them. When there is space enough in the house, he should have a den or study of his very own, furnished in accordance with his ideas and not with hers. It may be a struggle for her to keep her own wishes in abeyance and to refrain from "cozy-corners" and rugs and hangings and the like, but her self-control will be worth the effort, to him if not to her. He will probably desire many of the things her better judgment would reject, like a carpet in cheerful colors, and shades at the windows instead of curtains, and a couch uncluttered by draperies, and the pictures on the wall will stir her artistic soul to revolt. None the less, the place will be the heart of the home to him and will do more to draw him back to his own fireside than any amount of elaborate decorations and art furnishings.

But what if there is not room in the house for him to have a den to himself? Then the wife's course is harder, for she must make a compromise and give him a corner of the library or living-room for his own, or adapt his bedroom to his wishes. If he has a separate sleeping-room, this can be arranged in accordance with his preferences, and again his wife may have a mental struggle to bring her will into conformity with his comfort.

An Example of the "Woman Who Did": Being a Narrative of Feminine Tact

Here is an example of a woman who did this:

Her husband is very devoted to his home. He is essentially a man of domestic tastes and takes a lively interest in all that concerns his house and his family. Among the belongings which came to him in the breaking up of his father's home were certain possessions which were as dear to him as they were obnoxious to his wife. There were some rather ghastly family portraits,—crayons and "enlargements" and tinted photographs,—several articles of furniture, a few pieces of china, and a number of pictures and ornaments which had no value beyond those of association. All were cherished by the man of the house, and his first wish when they came to him was to place them in prominent positions in the drawing-room of his home.

Here was where the wife exercised tact. She did not wound her husband by giving him her real opinion of his treasures. Instead she skilfully disposed of them in such a way that his feelings were not hurt. Some of the furniture was good and this she gave a place of honor. The china was carefully bestowed in a cabinet, where, as she assured him, it would be safer than on the sideboard or mantel-shelf. The natural place for the family portraits was found to be the man's own room, and here and in the children's chambers went as many pictures as could be put there, while the ornaments were marshalled where they would do least harm. Little by little the articles she could not at first eliminate were crowded out by later possessions and all without any idea on the man's part that his special belongings were not held in as high esteem by his wife as by himself.

Hypocrisy? Not at all! Only tactful, loving consideration for perfectly natural feelings, instead of a blunt disregard of old associations and affections.

The Majority of Men Appreciate a Thoughtfulness That Makes for Their Own Comfort

Does all this sound as though a man were to be pampered and spoiled? If he is the right sort of man such treatment won't hurt him or his wife in the least. I grant that a selfish man may be confirmed in his own ways, but I don't believe the majority of men are selfish in just this direction. I think the greater part of them are prone to be considerate of their women-folk and appreciate a corresponding thoughtfulness which makes for their own comfort. And, after all, is not such consideration rather their due?

Take the case of the ordinary, everyday man, who goes out to his work in the morning early and does not see home again until he comes back to it, tired, in the evening. All day he has been knocking up against men and conditions, and when he turns into his own door he is jaded and fagged out. What is his home to mean to him? Is it a haven of rest or a boarding-house?

If a boarding-house he should have the measure of independence which the disconnected male

boarder has in his dwelling place. In this he is allowed to go unvexed to his room, which, while it may be cheerless, is at least his own, and he is not expected to do anything in the line of entertainment or sympathy unless he feels like it. If a man's home is to be a refuge from outside cares and worries he surely has a right to expect to be spared unnecessary domestic annoyances and to be accorded a modicum of consideration. Does he always have this? Is there a corner in which he can be alone long enough to quiet his jerking nerves and get himself in hand? Is there comfort awaiting him in freedom from a recital of household worries and contretemps until he has had his dinner and become a little rested? It would be interesting to have a few returns from men on this subject.

Sharing the Responsibility of Household Cares

But is a woman to have no rights? I may be asked. Are not the household cares in a way her husband's responsibility as well as hers? Should he not share her burdens? Especially since there is a popular superstition that by so doing he halves their weight for her.

I wonder if he does! I wonder if it really divides a woman's worries to tell them to her husband! In a way, this may depend on the man and the woman, and is also largely a question of proportion. The query is, after all: Does she win enough by the outpouring of her woes to equal the weight she lays upon the man who already has his own burdens to carry? How much better off is she afterwards and how much worse off is he? Does the talk really give her comfort and enlightenment? These also are points it is worth while to consider.

There is still more for a woman to ponder upon in connection with what home should mean to the man in whom she is most interested. What should be his rights so far as his personal conduct there is concerned? What liberties are to be his? When and where shall he smoke? In what other details shall he feel free to follow his own inclinations?

Personal Liberties—Where Shall the "Man of the House" Be Allowed to Smoke?

At first sight these inquiries, like the question of furnishing, may seem trifling matters, but they are in reality details which demand serious thought,—from both the woman and the man.

Consider first the smoking, an item, in some cases, rather difficult to adjust.

So far as smoking is concerned, I confess that my sympathies are largely with the man. I am not an admirer of Carlyle's personal characteristics, but I have always felt it was hard on him to be obliged to sit in the kitchen and smoke up the chimney, instead of being permitted to perfume the air of the upstairs apartments with the incense of his pipe. I am sorry for the man who is banished to the back porch for his evening smoke. I have a great respect for a woman among my friends who originally disliked tobacco, but who has concealed this fact from her husband and lets him smoke in the drawing-room or in his own room when he pleases. After this concession on her part it came almost as a matter of course that he should of his own accord defer to her wishes and refrain uncomplainingly from a cigar in the drawing-room when she expected guests, or at other times when he thought the smell of smoke might be unpleasant to her.

Thoughtfulness Should Be Met with Thoughtfulness

With all this sympathy for the man I fully recognize the woman's point of view. I don't like smoke in my hangings any better than other housekeepers, and I object as much as the fussiest of them all to the stumps of cigars and cigarettes and burnt matches lying about in ash cups, poisoning the air of the room; but I think the man's comfort in his home, his sense that here is a place where he has rights as well as privileges, are of more importance than my personal preferences. On the other hand, I feel that this consideration on my part, or on that of any other woman, should meet with an equal thoughtfulness on the part of the man. It is "up to him" to meet my concessions by his own, to open the windows and air the room when he has finished smoking, to collect and throw out the debris of his tobacco-burning instead of leaving it where it is for a woman to gather up afterwards.

And Then Dress—How Much Carelessness Should a Husband Think Proper or a Wife Tolerate?

So much for the smoking. How about other things? How much license is a man to allow himself in the way of dress—or undress—in his own home?

A woman told me of the struggle she had to reconcile herself to her husband's carelessness in certain details of dress,—of how it used to worry her when he came to the table in the evening after his return from his office, tired out from his work, with no other preparation than washing his hands and brushing his hair at the lavatory in the back hall, of how she used to

urge him at least to go upstairs and change his coat and put on a clean collar, and of how finally she yielded the point sooner than bother him further about what he considered non-essentials.

"He is no longer young," she said, "and when he comes home weary after a long, hard day the question is if his comfort, the feeling that here is one place where he can relax and do as he pleases, are not worth more to him than the pleasure of seeing him well-groomed would be to me."

"Nothing in the Whole World Is Worth the Loss of Thy Peace"

Yes, that is the question, and it must be decided by both parties. To me it appears that it is the man's share to estimate if his wife would not have enough gratification from seeing him look freshened up and trim to repay him for the effort of mounting a single flight of stairs and changing his coat and collar. He should try to regard it from her viewpoint. But what if he refuses to do this? What if he persists in thinking it unreasonable on her part not to be satisfied with him as he is and continues to come to the table in soiled linen and work-shabbied coat?

Well, in that case, I really believe it is the woman's part to give in. "Nothing in the whole world is worth the loss of thy peace," and nothing in reason is of sufficient importance to warrant constant nagging,—especially if it is doubtful if this will do any good. For when a man gets to the point where he is "set in his ways," pleas and protests on his wife's part will probably only confirm him in his obstinacy. She may make a final effort by approaching him tactfully when he has had a satisfactory dinner and is in a good humor, but if he refuses then to concede his will to her wishes, the part of prudence is to let the matter drop. All the same, I would think the less of that man's affection for his wife and of his care for her comfort.

Once More a Sense of Proportion Will Help Solve Difficulties

Of course, there are men who from their upbringing or their own carelessness have certain unpleasant habits. The man who picks his teeth at the table, who cleans his nails in public, who takes off his coat on a hot day and sits in shirted and suspendered ease at his meals, is far more of a trial to his wife than he is likely to guess. In a way, it may be her fault that she did not check these failings while in the first flush and fluff of recent matrimony her husband was willing to indulge her whims! To be sure, sometimes these tricks do not show themselves until a man is older and less easily managed! Yet, does not the same rule hold good here as with other details? Should he not be permitted freedom to do as he likes in his own house? If he enjoys coming to table collarless and in a bathrobe should he not be indulged?

Again the question is one of proportion. If a man's behavior mortifies his wife and children, if it lays him open to criticism from strangers and lowers him in their regard, it strikes me as a part of a woman's wifely duty to endeavor to break her husband of unpleasant habits. The right sort of a man would hardly fail to see the justice of her attitude if she presented her case with loving tact. A reproof of this sort utterly fails of its effect if administered publicly or under the wrong conditions or if barbed and pointed with sarcasm.

A Generous Rivalry in Concession Is the Secret of a Happy Home

So far as the man's part is concerned, I believe that it is incumbent upon him to yield his own small weaknesses at his wife's request. When a man looks upon his home as a place where he need not restrain his disagreeably self-indulgent impulses, when he feels it is a spot where he may be himself even if that is a wrong-headed, unpleasant self, he has ceased to make legitimate use of his home. Use has become abuse.

Mutual concession, a generous rivalry in abandoning one's own will for the sake of another, here, after all, is the secret of the happy home. I have said enough in favor of the man to be acquitted of undue severity if I add that it is frequently the woman on whom is bestowed the privilege of giving up in small things. The man may waive his preferences as to the furniture, the management, the housekeeping,—even the bills,—but he sees no valid reason why he should resign cherished personal indulgence. Perhaps it might be worth while for him to expend a little reflection on this condition and determine if there may not be a few trifles in which he could make home mean more to his wife without actually causing it to mean less to himself.

THE RIGHTS OF A MOTHER

BY

CAROLINE BENEDICT BURRELL

In these days when parents are considering as never before the child's rights in the home, driven to it by the moral pressure of the day, too often the mother, in her fear of defrauding her child, becomes herself a loving slave to her family. The tastes of the children are consulted as to food, dress, and amusements. The house is furnished as the daughter wishes, and meals are served at the convenience of the son. Unconsciously the mother yields her place as head of the house until she is practically a nonentity.

Yet this is the greatest wrong a mother can do to her children. Such a giving-up makes them in the end monsters of selfishness, and if she goes still further and adopts what is practically an abject attitude toward them, she tempts them actually to bully her. To be sure the day comes when the grown-up children say remorsefully, "Poor mother! What a life we led her, and what a saint she was!" But the belated tribute is small comfort to the dead and does not repair the wrong done to the characters of the children.

The Right to Rest—Hints on How to Obtain Relaxation

If a mother would keep the respect due her there are certain things to which she must claim her right, and hold to them even when she is willing and anxious to give them up. Perhaps the first of these is her right to rest. The tired mother is never at her best; it is impossible to be fresh and smiling and cheerful when one is ready to drop with fatigue, and yet small children who do not sleep well at night, and are restless and fretful by day, and older children who must have clothes made and meals cooked for them, demand more than flesh and blood can well give.

How can a mother obtain rest? For one thing, she can simplify her work as far as possible. Her table may be just as wholesome without being so elaborate; she can make a study of simple meals. She can also make the children's clothes far less work, buying more which are ready-made, and putting fewer stitches when she must make them at home. Besides these things, she can study how to have her children help her, in spite of school. Instead of saying, "Poor things, they have to study so hard, and they will be young but once," and saving them everything, she can train them to give her an hour's work a day—half before school, perhaps—to the infinite saving of her steps and the improvement of their own lives. They can learn to care for their own rooms, the boys as well as the girls; they can pick up their clothing, their toys and books; they can sweep up the mud they bring in; they can wash the dishes, and set the table; and the girls, at least, can do their own mending. They will love their mother the more for helping her, and the less for doing for them what they well know they should do for themselves. All of this will give the tired mother a chance to lie down and, better than this, a chance to get out-of-doors and away from her family for an hour or so; she will come back fresh and rested and good-natured, to be a better mother to better children.

The Right to Individual Tastes—These Should Not Be Abandoned after Marriage

Another right a mother too often gives up to her family is the right to her individual tastes. Before she married, probably, she played the piano, but after years of lack of practice she cannot play at all. Possibly she used to write stories, but now she has no time. Certainly she loved to read, but how can she get a quiet hour with a house full of children? But which mother do growing children most admire, the one who sits silent while talk goes on about current events or new articles in the magazines, or the one who is abreast of the thought of the day? Are not one's children delighted to hear mother play, or to see her name attached to some story in print? They are proud of her if she is mentally fresh and young. And so it does not pay to give up everything of the sort merely for lack of time. One should take the time, guard sacredly the right to individuality, if only because it is best for the children in the end.

The Right to Courtesy—Good-Breeding Always to Be Shown in Children's Conduct toward the Mother

One more right of hers, too often forgotten in these busy days, is the right to courtesy. To permit a boy to sit while she looks for a chair

is a wrong done him. To allow a girl to speak disrespectfully is a greater wrong still. Doubtless one hates to "keep at" one's children about these things, but it must be done, quietly, perpetually, until the right of the mother is recognized and yielded unconsciously. The idea that a parent should be a friend, a chum even, of the children is all very well, but that does not imply carelessness and ill-breeding on the children's part.

A mother ought faithfully to study how to hold her own in the family, not with self-assertion or arrogance, but with a quiet dignity. To yield all, to be a servant in fact if not in name to one's children, is to do them the greatest possible harm. They will respect and love her if she keeps her place and expects consideration and assistance and courtesy from them, and they will unconsciously look down upon her if she give up that which belongs to her by divine right.

CONVERSATION IN THE HOME: WITH SPECIAL REFERENCE TO TABLE-TALK

BY

WILLIAM BYRON FORBUSH

In many modern families the longest consecutive time the members spend together is at the table. Especially in city homes, where dinner is eaten at night, the evening meal is the greatest social opportunity of the day. There is then an instinctive disposition to linger about the table, quite unlike the eager haste seen at breakfast or at lunch. Work is over for the day, everybody is tired, even the little ones who have nothing but play. Father is ready for slippers and a comfortable chair; the children are ready and eager to recount the experiences of the day. This is the time when each should be cheered, rested and also stimulated by just the right sort of conversation, just the right sort of amusement. But often the hours at this one meeting-place are wasted, or even worse, and instead of leaving happy memories, leave unpleasant ones.

Mealtime Is a Moral and Social Opportunity

Mealtime is a unique social and moral opportunity to children. "It is not the child of six who sits at the table and listens," says Colin A. Scott, "it is a human spirit, eager, curious and wondering, surrounded by mysteries, willingly taking in what it does not understand to-day, but which will take possession of it next year and become a torch to light it on its way. It is through association of older people that these fructifying ideas come to the child; it is through such talk that he finds the world he is to possess."

Even parents can learn from the interchange of ideas. Socrates used to clear up the minds of young people by asking them apparently simple yet ingenious questions, but it has been suggested that he got his reward in clearing up his own mind by listening to their answers. The trouble with books containing collections of the table-talk of famous men is that such talk was not really conversation but monologue. It implied a listening audience. But as Carlyle once said, "To sit still and be pumped into is never an exhilarating process." The family table is a place where the wisest can learn and where the most foolish can sometimes teach. The old adage, "Children should be seen and not heard," ought to be amended. Children should be both seen and heard. Unless they are seen by and see wise people, how can they become wise, and unless they can be heard, how can they have their fallacies exposed?

The Possibilities of Table-Talk

"There is," says Scott, "no educational opportunity in the home more important than the talk at table. There are homes in which the very atmosphere makes for wide knowledge of life, for generous aims, for citizenship in the world, as well as in the locality in which the home stands. Teachers in schools and colleges find the widest differences in the range of information and the quality of intelligence of the boys and girls who come to them. . . . The fortunate children have grown up in association with men and women of general intelligence, have heard them talk and lived among their books."

Conversation is a reflex of character. The pretentious, the illiterate, the impatient, the envious, will as inevitably betray their idiosyncrasies as the modest, the even-tempered, and the generous. Strive as we may, we cannot be

always acting. Let us, therefore, cultivate a tone of mind and a habit of life, the betrayal of which need not put us to shame in the company of the pure and the wise; and the rest will be easy. If we make ourselves worthy of refined and intelligent society, we shall not be rejected from it; and in such society we shall acquire by example all that we have failed to learn at an earlier period from precept.

Practice in Expressing Thought Is Bound to Be Helpful

One of the most attractive forms of culture which comes from table-talk is the ability to talk well. Those who cannot talk are in the danger expressed by Lord Bacon's pungent phrase of "suffering their thoughts to pass in *smother.*" Dr. Washington Gladden once named as the two indispensable qualifications of a good conversationalist: a good mind and a good heart, intelligence and kindness. It might be thought that a good mind is a goal beyond the reach of some persons, but a good mind is not necessarily a brilliant mind. It is simply a well-disciplined one, a mind accustomed to reflecting, judging and to choosing for itself. In a household where there is some thoughtful conversation upon the topics of the day or upon the simpler facts of science and upon the work that is being done by the children in school, good minds are being developed. It is not, as we know so well, mere memorizing which constitutes the scholar. It is solitary rumination and social intercourse. The latter is just as important as the former. There is no better place for such intercourse than about the home table, where the earnest endeavors of even the youngest to enrich the conversation are received with kindliness, and where constant practice in expressing thought is bound to be helpful.

The Relative Rarity of Really Good Talk

"Really good talk," says Arthur C. Benson, "is one of the greatest pleasures there is, and yet how rarely one comes across it! If people would only look upon conversation in a more serious light how much would be gained. I mean that the more seriously one takes an amusement, the more amusing it becomes. What I wish is that people would apply the same sort of seriousness to talk that they apply to golf and bridge; that they should desire to improve their game, brood over their mistakes, try to do better."

The correct table-manners of a child are not so much the result of unwearied drill by a mother as they are the characteristic of a child who has sat at a table where he has learned courtesy by imitation and where the intellectual talk has caused the mere appliances of handling the food to fall into their proper and minor places. Still, even here skilful devices are appropriate, and mealtime may be made the best as well as the most agreeable place for forming beautiful behavior.

One mother uses imitativeness in the following way: "Belonging to the great throng of people who do not have a nursery or a trained governess for our little folks, I've found it makes the mealtime pass more pleasantly for children and grown-ups for them to have their own little table in the dining-room. They arrange flowers, in fact set their table 'just like mamma's,' with their own baby cups, plates, etc. The chairs they sit in are comfortable. My impression is that they behave far better for the reason that they are more comfortable at their own table than they are at ours."

An Ingenious Plan Followed by One Mother—A Quotation from Stevenson

Some mothers begin by having the children in for dessert only, and thus they test their good manners only during those favorable moments when they are enjoying themselves. Later, they come for the whole meal.

A certain mother uses the following ingenious plan, the value of which is that the children treat each other as guests and reprove each other in the third person without giving offense:

"When alone with my charges I found a habit growing on me of saying, 'Don't this' and 'Don't that,' when the little ones were careless with food or knife and fork. To avoid this, I hit upon a plan to let each child represent a distinguished person, and observe closely and then report after the meal who made mistakes, the offender forfeiting as many bonbons. You have no idea how careful they were and how much pleasure we derived from the 'game.' Of course, our table was as carefully arranged as though father or guests were present. It was real funny one day when 'President and Mrs. Taft' and 'Ex-President Roosevelt' were the personages—and 'Baby Stuart' said, 'Oh, mamma, Mr. Roosevelt made a blunder.'"

Talk trains in morals as well as in manners. Says Stevenson, "Talk has none of the freezing immunities of the pulpit. It cannot, even if it would, become merely esthetic or merely classical like literature. A jest intervenes, the solemn humbug is dissolved in laughter, and speech runs forth out of the contemporary groove into the open fields of nature, cheery and cheering, like

schoolboys out of school." "In such a frame as this" who can help getting more human and kindly?

Some Ideals for Table-Talk—Avoid the Weather, the Food, and Disagreeable Personalities

The family table ought to be the Round Table in daily life. It is the place to which all should always bring their best. The table should be set and the talk should be keyed as if for guests. If the greatest Host who ever sat at earthly tables set apart a common meal and left it to be the chief sacrament, it must have been His intention that the common meal everywhere and always should be held sacred.

There should always be a certain largeness about the family conversation. Professor Mahaffy reminds us that "the weather is almost invariably the first pawn to be moved. This method of opening the game seems, however, so stale that every sensible person should have some paradox or heresy ready whereby he may break through this idle skirmishing and make the people about him begin to think as soon as possible." Largeness implies, too, the avoidance of remarks and comment upon food, so constant a habit in many homes. It also implies the avoidance of personalities on the part of either children or parents, in telling tales about teachers, fellow-pupils, neighbors, or of quarrels or disagreeable contact with friends. It implies the avoidance of any unkindly or thoughtless remarks about anybody.

Tact—General Cheerfulness

"Quite apart from instinct," says Professor Mahaffy, "an experienced man who is going to tell a story which may have too much point for some of those present, will look round and consider each member of the party, and if there be a single stranger there whose views are not familiar to him, he will forego the pleasure of telling the story rather than make the social mistake of hurting even one of the guests."

Another ideal for table-talk is cheerfulness. Father's business troubles, details of which can have no general interest, and only indicate selfish absorption on his part, have no place at table. Mother's household worries and cares, the petty details of work, and troublesomeness of children, are not to be brought to the common meal. Remarks at table about personal faults or peculiarities of those present are to be avoided. It is a good general rule that nobody is ever to be pointed out or scolded at table and that disagreeable decisions, especially as regards the pleasures of the evening, are never to be made or announced at that time.

Pleasant Customs Inaugurated in Various Homes

In a certain American home, described by a writer in the "Mother's Magazine," a pleasant custom was inaugurated by the parents while the children were young. Said the mother to them:

"A day started right is good until night. Now to breakfast hereafter every one must bring a happy thought, and after grace is said, and before eating, repeat it."

"Will you bring a happy thought, mamma?"

"Certainly."

"And papa?"

"Of course he will."

The children took to the idea with great glee. Their "happy" thoughts would be something to talk about, and then there was always the anticipation of what father and mother would have to say.

The same writer tells of an English family that has always begun each meal with a song. "I have gone to that table in a very depressed mood and by the time the song was ended had my entire view of things changed. In this family, the children, young and grown, are remarkably cheerful. They have an optimistic way of looking at things, and I attribute much of this to the cheer that is kept uppermost at the table from the beginning of the song to the end of the last dish."

A father who is at home for every meal of the day makes it a practice to tell all the bright things he hears during his work. After the meal begins, a twinkle comes into his eyes and a smile hovers on his lips. This is the signal that he is ready to make others feel as happy as he does.

The Table Is a Place Where Everybody Has a Right to Be Happy

The two barriers to happiness at the home table are irritability and egotism. These two vices are cousins. The talk, to be enjoyable, must be good-humored. A good rule for any household is, "When anybody begins to lose his temper, have him stop talking." The essential thing to teach our children is that the table is the place where everybody has a right to be happy. Nobody can be happy if anybody is ill-tempered. This law also prohibits egotism. Where there is an individual whose talk is all about himself, his wonderful experiences, his matchless gifts, his peculiar tastes and notions, nobody else is happy. Somebody has defined a

bore as a man who insists upon talking about himself when you want to talk about yourself. Children are naturally self-centered. Their rehearsals of the annals of the day are often tiresome to their elders. It is desirable, however, in order to retain their confidence and to develop their interests in each other, that each should be given his turn at such rehearsal. The table where this is the only line of conversation is a dreary one, and the mother or father who will lift the eyes of the children to a wider horizon, after they have reminisced concerning their own doings, is not only making everybody happy, but is wisely educating all.

Table-Talk Should Be neither Empty and Aimless nor Dull and Over-Deep

"Good food and sweet, laughing conversation at the table," wrote Charles Dickens, "are mutual inspirations for a better life."

Table-talk should be sociable. The dinner-hour is a time to forget self, to try to see the best in others, and to summon whatever of humor, quickness, natural charm and sympathy each may possess. Tell a joke at table every morning, Dr. Gulick advises a misanthrope, even if it hurts you. And he adds: "It won't hurt you."

Table-talk should sometimes be instructive. People who would scorn to appear in a negligée toilet at table will utter conversation there that is slipshod, empty or vulgar. The home in which talk is planned to instruct the children is an institution of dignity and value in the training of immortal spirits.

If table-talk is to be all these, it must preserve a happy mean. It should rise above the aimlessness of which De Quincey spoke, "the vast tennis-court of conversation where the ball is flying backwards and forwards with no purpose forever," and yet not be dull or deep; "turning up," as Stevenson has suggested, "a large surface of life, rather than digging mines into geological strata."

Some Things to Be Cultivated

There are at least three things to be cultivated through table-talk. One is the power to converse well. We have already spoken of the value of this.

Another is the power to listen well. We are all familiar with those who are in talk what Stevenson called "piratic" and whom Mahaffy describes as "social bullies." Good conversation implies ability to listen intelligently as well as to talk intelligently; willingness to share good ideas with others, not to monopolize the floor; care not to talk so loudly or continually as to miss hearing when something good has been said; skill to draw others out and to gain the best that each one has to give. Interruption of the speech of others is a great sin against good breeding. It has been aptly said that "if you interrupt a speaker in the middle of his sentence, you act almost as rudely as if, when walking with a companion, you were to thrust yourself before him, and stop his progress."

Another thing to be cultivated is the opportunity of making good ideals contagious. While the wise parent never lectures at table, he often opens up topics for family discussion whereby some child gains from the public sentiment of the family a new view of his own conduct. The table is a good place to praise if not to blame. It is well to save up pleasant words for such an occasion, so that all the family may hear deserved approval of the conduct of some member.

How to Make Table-Talk Effective

In order to have fruitful talk at table the atmosphere must be favorable. The setting of the table, the lights and the service should all be of the quality to suggest that there are guests present, for our children are "guests from God." The child is not allowed to come to the table with clothing dirty or awry, not only for his own sake, but because he makes the table less beautiful for the rest. Nobody should be allowed to read at table unless the reading is for the benefit of all. In short, it is not a place for individualism of any sort.

Table-Talk May Even Be Prearranged—A Modern Symposiarch

"The beginning," says Professor Mahaffy, "is evidently the difficulty, and surely here, if anywhere, people who have no natural facility should think out some way of opening the conversation, just as chess-players have agreed upon several formal openings in their game." It is a good idea to have a definite plan and program for the family conversation every day. Such prearrangement may seem a trifle stilted at first, but a group of people working together with a common interest in view soon outgrow this phase and enter into the scheme with a keenness and enjoyment which quickly obviate this first embarrassment. Such prearrangement implies a leader. This leader may be a parent or one of the children. "What is really needed," says Benson, "is a kind of moderator of the talk, a sort of president. He should, so to speak, sort of kick-off. And then he should feel or at least simulate an interest in others' point of view

He should ask questions, reply to arguments, encourage, elicit expressions of opinion. He should not desire to steer his own course, but follow the line the talk happens to take." Such informal chairmanship by a "symposiarch," as the Greeks called him, is especially helpful to the older children. It prevents them from teasing the younger ones, it makes them more thoughtful and unselfish, and it helps them to realize their responsibility as examples.

The Family Organized as an Informal Club

In some households there is some kind of informal organization. It may even have a constitution and rules. The family constitutes a club. This club holds its meetings chiefly at table. Here are talked over the proposed activities, improvements of organization, and new plans. Sometimes a box is kept upon the center of the table for the reception of fines for indulgence in slang, misuse of English, or misplacement of clothing and other articles. Father and mother are included as well as the children in this fining system. The whole thing is carried on in a playful way and the fine fund is utilized for some form of pleasure for all.

Helen Hunt Jackson once complimented women by urging that mothers have a special opportunity at the table because the mealtime wants a light touch and undertone, to bring out the full harmony of an ideal home evening. "It must not," she said, "be a bore. It must not be empty; it must not be all preaching; it must not be wholly like play; it must not be always, even twice, the same. It must be that most indefinable, most recognizable thing—'a good time.' Bless the children for inventing the phrase! It has, like all their conversation, an unconscious touch of original expression."

When Guests Are at the Board

One of the best ways to make table-talk profitable is by welcoming guests. Here is the opportunity by which the children may do one of the three things which Edward Everett Hale said everybody ought to do every day—touch shoulders with some one that knows more than themselves. When guests are to be present, one thing should be done in advance. Every guest has something to give. The parent should notify the children in advance what this expected contribution may be. While the natural and unaffected conversation of children in the presence of guests is always pleasant, they should not be allowed to babble when they would better listen. Even the unpleasant guest may drop pearls from his mouth: cross Aunt Eliza has just returned from Egypt, or deaf old Mrs. Simpson used to live in a wonderful old-fashioned house in the country. The children should be encouraged to draw forth the things that are worth knowing and remembering.

Suggestions toward Material for Conversation in Families with Children

In some families it has seemed wise to go so far as to adopt a weekly program for conversation, to arrange either that the talk should be led in turn on successive mornings or evenings by different members of the family, or that definite topics which individuals have asked for should be taken up in turn. The suggestions that follow are as to possibilities in the range of topics to be brought to the attention of a family where there are children.

Things Seen—Children May Learn How to Observe and How to Relate

"There is," says Charles Dudley Warner, "no entertainment so full of quiet pleasure as hearing a lady of cultivation and refinement relate her day's experiences in her daily round of calls, charitable visits, shopping, errands of relief and calls of condolence. I do not mean gossip by any means or scandal. A woman of culture skims over that like a bird, never touching it with the tip of a wing. What she brings home is the freshness and brightness of life. She touches everything so daintily, she hits off a character in a sentence, she gives the pith of a dialogue without tediousness, she mimics without vulgarity; her narrative sparkles, but it does not sting. The picture of her day is full of vivacity, and it gives new value and freshness to common things."

The experiences which are brought home by the father may be even more unique and interesting. The children also have their fresh angle upon life and soon learn to imitate their parents in habits of observation, of humorous relation, and of acute detail. Some of the themes which the day's observations suggest are these: in riding or walking in the streets of town or city, many incidents of people coming and going, pretty hats and dresses, interesting conversation, curious characters, foreigners or distinguished people. Looking in shop windows, one sees the artistic arrangements and the new fashions. In the market, mother notices the fresh vegetables and fruits, their beauty of color and the facts about them as told by the grocer or marketman. Father, in the office, has had a letter with a foreign postmark; in the shop he has received a new invoice of goods from a foreign country;

in the factory, he has installed a wonderful new machine, or has seen a fine piece of handwork turned out. In the country or the parks there are the interesting things about nature: the migration of birds, the blooming of flowers, indications of the change of the seasons, or such special features as birds' nests, the ant-hills, the habits of birds or animals. Comment upon a single incident in nature often leads to watching and special reports from time to time.

Sample Questions to Stimulate Observation and Thought

It is a good idea to shoot forth a question suggested by something that has been seen and leave it with the children to think of or look up, referring to it again a day or two later. The following sample questions immediately suggest to the reader the item of observation which called them forth:

What is the largest star you can see to-night?

Why are two stars in the Dipper called pointers?

What color are crows' eggs?

What use are crows to farmers?

How does a dog know a stranger?

What are some of the pets kept by sailors in our navy?

Does a bird ever sail with his tail toward the wind?

How can you tell an oak-tree?

Why is salt water not good for plants?

What makes us sneeze?

What is the purpose of holes in the young bark of a tree?

Why does a duck never get wet?

Another kind of questions may be propounded which have no direct connection with immediate observation, but which are thought-starters. Such as these:

What makes a bee hum?

Does a tadpole know he will lose his tail?

Where are a frog's ears?

How did a pig nearly cause a war?

How did we get the umbrella?

Why will a rug smother a fire?

What should you do in case of fire at our house?

How do West Point cadets do honor to the flag?

One Method of Finding "Thought-Starters"

A mother finds "thought-starters" naturally, in this way:

"If the rolls of bread are especially nice, we often take a grain of wheat and follow it from the time when it was a little 'seed baby' until it comes to us in different forms (bread, rolls, or cake).

"Or sometimes we take the table and chairs and trace them from the time they were 'great trees' in the forest until they come to us.

"Marjory going to school, we talk about the 'happy' things that happened at school and leave the little troubles (which to them are very great) until bedtime when the lights are out. That is the time we have our little talks 'all alone.'"

The experiences of the day in school ought to be called for every night, for the sake of the knowledge of the parents as well as the memory of the child. Often many misapprehensions as to the attitude of the teacher, influences resulting from the code of the school-ground or projects emanating from a foolish companion may be thus promptly and pleasantly corrected.

People Met—Developing Habits of Kindly Helpfulness and Large Humanity

Often in his business relations a father meets people who have something of interest to offer in the exchange of ideas: people of different nationalities, from different parts of our own country; persons who reveal curious parts of their own history. To cultivate this sort of genial intercourse with the folks one passes by is to awaken a steady interest in people and to develop a habit of kindly helpfulness in growing boys and girls which make for a large humanity in after years. This, too, will awaken a general interest in community life—policemen, motormen, street-cleaners, men at the railroad crossings, girls behind the counter. Often one runs across bits of rare experience and gains the picturesque background of these lives. The ability to draw out such bits of human life and to relate them gives one a rich fund for thought and conversation.

Things Read — How Horace Bushnell Wrought Magic with the Morning Paper

A daily newspaper if brought to the table should not selfishly be hoarded by one, but shared by all. Happy is the father who has the ability thus to interpret the news of the day. Of Horace Bushnell his biographer says: "At breakfast the daily paper became through him the epitome of the world to us all. He brought to the reading all his resources; gave his thought on social philosophy; his knowledge of geography, chemistry and geology; his love of adventure, of mechanics, of architecture, and of engineering in its various branches; and throwing his own light on every subject, evolved from the daily telegrams a fascinating panoramic view

of the world's life for the past twenty-four hours. Under his magic insight the most commonplace events assumed an unlooked-for meaning, and took their place in relation to all other events and histories." No doubt an intelligent father could, if he would, give his children a liberal education out of the allusions and history, geography, science, and discovery which are suggested in his morning journal.

What the children have read or studied in school is also a good topic for table-talk. Here is a chance to straighten out misconceptions, give interest to a hated subject, stimulate search in a new direction, in ways which should make wearied teachers grateful.

Events or Incidents—Happy the Home in Which Abides an Old Person

A period in history might be taken for a month and once a week devoted to the relation of interesting facts connected with it; anniversaries might be observed by contributions of special information from different members of the family; countries might be selected, upon events in which chosen members of the family should be asked from time to time to report.

Children seldom tire of reminiscences from the past, and often they get a more interesting view of history from personal experiences than from text-books. Happy the home in which abides an old person who brings down the traditions of an earlier time. It is especially helpful to that form of family pride which implies *noblesse oblige,* if through such reminiscences of brave and true ancestors, or pictures of pioneer struggles, the children can come to determine never to do dishonor to their clan.

Novels and Plays Summarized

To tell the story of a novel in a condensed and interesting way is a great art, and the discussion of such characters as are famous and important in a book will prove invaluable. To tell what parts of the book one likes best, and why, is to cultivate the power of critical judgment. To tell why a character is admirable or otherwise, and just why it makes its appeal to one, is a great help in the formation of sound judgments of character and high ideals. Many children will be allured to the reading of good books if they get a taste of them thus through hearsay, and no exercise could be more profitable than for a child to endeavor to summarize what he has just read himself. It is likewise a profitable exercise to condense the story of a play which has been seen. Parents, of course, should always know the character of the plays which their children attend. The discussion at table of what has been seen serves to correct false or evil impressions, to put the parent upon his guard, and to develop the taste for that which is good.

Travel-Talk

Nothing can prove more delightful to people who must stay at home than interesting matters about other countries chosen as topics of table-talk. The writer knows of two women, disappointed for many years in their desire to travel through England, who spent a summer in an imaginary tour through that country, giving several days (at table) to each place and even going so far as to date their letters from the imaginary place concerning which they were talking.

Humanitarian Movements

There should be room occasionally at table, perhaps as a result of suggestions in the day's news, for conversation about betterment movements in the community, such as playgrounds, the Boy Scouts, the Camp Fire Girls, the Big Brother Movement, the Y. M. C. A., or the nearest Social Settlement, etc. If children could know these movements from the personal and human side they would later in life have a more intelligent and loyal devotion to them.

Civics

Similarly, topics which concern the public welfare of the city or village, and the family's personal relationship thereto, should come up once in a while. Some questions such as these should be propounded:

How can we help in care of the streets?

What can we do to help provide safer amusements for young people?

Are we using the school buildings as much as we might?

How far are we responsible for specific social conditions in our city or neighborhood?

The kind of moving-picture shows we have here: what good and what harm results from them?

How about our theaters?

Humor

To bring all the wholesome humor which is possible to the table is an excellent means of whetting the appetite. To tell a story well and to the point, and in true dramatic fashion, is a rare gift, and the home table is a good place to "try it out on." If a child has told a good story well, he should be complimented upon it, and that story should be regarded as his own for future

use in the home. Everybody should be glad and good-natured when any child succeeds in working a good "sell" on the rest of the household. Good jokes and truly funny stories are a wholesome off-set for vulgar and pernicious jests, which are usually told for lack of the refined power of selection. It is as important to develop a good taste in jokes in a child as to cultivate a good taste in art, for what a child laughs at and what a child admires are very closely related. The fact that the kind of humor which appeals to a little child is not especially enjoyable to the adult intelligence should not prevent the youngsters from being allowed to contribute their quota.

Games Played at Table—Inventing New Games

It is often a pleasant diversion for people to play games at table, especially toward the close of the meal. The game of "Twenty Questions" is familiar and good. Telling a story in sections, demanding that the next take it up where the first left off, and so continuing in turn, is good exercise. Guessing games, describing some familiar or famous event or scene, are instructive. Guessing riddles or conundrums is a great diversion and sharpens wits. An original game was invented by one motherly soul to teach children good manners and to avoid the nagging habit of incessantly calling attention to the lapses of others during the meal. After dinner was over, a short time was given occasionally during which each one in turn was allowed to imitate any wrong table-manners he had observed in some one else at the table, and then the guessing to whom the fault belonged was done by the others. The caricature of one's behavior made much fun and a deep impression and at the same time took all the sting of personal rebuke out of the situation.

Some Results of Happy Mealtimes

Such a mealtime, at morning or at noon, sends the family out separately with merry, loving faces to meet the burdens or responsibilities of the rest of the day. If it comes at the close of the day it leads to a pleasant evening. Children who enjoy such fellowship are not likely to be strongly attracted away from home at night. Even when the members of the family are obliged to be apart, they will be together in spirit. They are creating happy memories which will always hold them together. The problem of discipline in such households will never be a difficult one, for sympathy is thus continually being reëstablished. The children of such households grow up alert, interesting, and interested, to live lives full of intelligence and charm. Truly upon such tables shine the high lights, and at such boards is perpetually broken the Bread of Life.

MANNERS IN THE HOME

BY

CHRISTINE TERHUNE HERRICK

WHAT is Good Society? What constitutes Good Manners? How happens it that the elegance of one age becomes the vulgarity of the next? From immemorial time the human family has been divided into two sections—the Polite and the Vulgar. Whence arose that broad distinction? What was the primitive definition of Politeness? Who first discovered the possibilities of Vulgarity? How may both be resolved into their first elements? These are questions by no means trivial—by no means unessential to the student of history. We might even go further than this, and say that neither the history of mankind in general nor the history of any one nation in particular, can be duly understood and appreciated without a much fuller knowledge of the rise and progress of manners and customs than has hitherto been deemed necessary by historians or students.

Light on the Origin of Manners

It would seem that good manners were originally the mere expression of submission by the weaker to the stronger. In a rude state of society every salutation is to this day an act of worship. Hence the commonest acts, phrases, and signs of courtesy with which we are now familiar, date from those earlier stages of our life as a nation when the strong hand ruled, and the inferior demonstrated his allegiance by studied servility. Let us take for example the words "Sir" and "Madam." "Sir," once in use among equals, but now only proper on the lips of inferiors, is derived from Seigneur, Sieur,

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Sire, and originally meant Lord, King, Ruler, and, in its patriarchal sense, Father. The title of Sire was last borne by some of the ancient feudal families of France who, as Selden has said, "affected rather to be styled by the name of Sire than Baron, as Le Sire de Montmorenci and the like." Madam, or Madame, corrupted into "Ma'am," and by Mrs. Gamp ("Martin Chuzzlewit") and her tribe into "Mum," is in substance equivalent to "Your exalted," or "Your Highness"—*Ma Dame* originally meaning high born or stately, and being applied only to ladies of the highest rank.

Everyday Forms of Salutation—Primary Significance of Some of Them

To turn to our everyday forms of salutation. We take off our hats on meeting an acquaintance. We bow on being introduced to strangers. We rise when visitors enter our drawing-room. We wave our hand to our friend as he passes the window, or drives away from our door. The Oriental, in like manner, leaves his shoes on the threshold when he pays a visit. The natives of the Tonga Islands kiss the soles of a chieftain's feet. The Siberian peasant grovels in the dust before a Russian noble. Each of these acts has a primary, a historical significance. The very word "salutation," in the first place, derived as it is from *salutatio,* the daily homage paid by a Roman client to his patron, suggests in itself a history of manners. To bare the head was originally an act of submission to gods and rulers. A bow is modified prostration. A lady's courtesy is a modified genuflection. Rising and standing are acts of homage; and when we wave our hand to the friend on the opposite side of the street, we are unconsciously imitating the Romans who, as Selden tells us, used to stand "somewhat off before the images of their gods, solemnly moving the right hand to the lips and casting it, as if they had cast kisses."

Again, men remove the glove when they shake hands with a lady—a custom evidently of feudal origin. The knight removed his iron gauntlet, the pressure of which would have been all too harsh for the palm of a fair *châtelaine,* and the custom which began in necessity has traveled down to us as a point of etiquette.

The Subtle Nature of Good Breeding

How are we to define that unmistakable something, as subtle as an essence, that makes a gentleman or a gentlewoman? May good breeding be acquired as an art? and if so, where are we to seek the best professors? Who does not wish to give his children, above all other accomplishments, that inestimable branch of education, the manners of good society? What is learning, what are abilities, what are personal attractions, what is wealth, without this one supreme essential? A man may know as many languages as Mezzofanti, may have made scientific discoveries greater than those of Herschel or Darwin, may be as rich as a Rothschild, as brave as a Napier, yet if he has a habit of hesitating over his words, or twisting his limbs, of twiddling his thumbs, of laughing boisterously, of doing or saying awkward trifles, of what account is he in society? So likewise of a woman. Though she were fair as Helen, skilled in all modern accomplishments, well-dressed, good-natured, generous, yet if her voice were over-loud, or her manner too confident; above all, if she were to put her knife in her mouth at dinner; who would think of her beauty, or her accomplishments, or her fine clothes? Who would invite her? Who would tolerate her?

The Primary Essential of Good Manners—The Kindly Fruitage of a Refined Nature

But we would by no means be understood to say that these mere outward observances constitute the essence of good manners. Neither gestures, nor tones, nor habits, can be accepted as infallible signs of good or ill breeding. Thumb-twiddling, and lolling, and knife-swallowing, are terrible habits enough, and would be, of course, sufficient to exclude any man or woman who practiced them from the precincts of good society; not only because they are in themselves offensive, but because they would point to foregone associations of a vulgar kind; but they do not of necessity prove that the primary essentials of good manners—the foundation, so to speak, upon which the edifice of good manners should be built—is wanting in those unfortunate persons who are guilty of the offenses in question. That foundation, that primary essential, is goodness—innate goodness, innate gentleness, innate unselfishness. Upon these qualities, and these alone, are based all these observances and customs which we class together under the head of good manners. And these good manners, be it remembered, do not merely consist in the art of bowing gracefully, of entering a room well, of talking easily, of being *au courant* with all the minor habits of the best society. A man may have all this, know all this, and yet, if he be selfish, or ill-natured, or untruthful, fail altogether of being a true gentleman. Good manners are far, indeed, from being the outward evidences of mere training and discipline. They are the

kindly fruits of a refined nature. As just and elevated thoughts expressed in choice language are the index of a highly-trained and well-regulated mind, so does every act, however unimportant, and every gesture, however insignificant, reveal the kindly, considerate, modest, loyal nature of the true gentleman and the true lady. Hear what Ruskin has to say of the characteristics of the true gentleman:

Would Feel a Bent Rose-Leaf, yet Behave Itself like Iron

"A gentleman's first characteristic is that fineness of structure in the body which renders it capable of the most delicate sensation, *and of that structure in the mind which renders it capable of the most delicate sympathies*—one may say, simply, 'fineness of nature.' This is, of course, compatible with heroic bodily strength and mental firmness; in fact, heroic strength is not conceivable without such delicacy. Elephantine strength may drive its way through a forest and feel no touch of the boughs; but the white skin of Homer's Atrides would have felt a bent rose-leaf, yet subdue its feelings in glow of battle, and behave itself like iron. I do not mean to call an elephant a vulgar animal; but if you think about him carefully, you will find that his non-vulgarity consists in such gentleness as is possible to elephantine nature; not in his insensitive hide, nor in his clumsy foot, but in the way he will lift his foot if a child lies in his way; and in his sensitive trunk, and still more sensitive mind, and capability of pique on points of honor. Hence it will follow, that one of the probable signs of high breeding in men generally will be their kindness and mercifulness; these always indicating more or less firmness of make in the mind."

Smile at the Thrice-Told Jest and Yield the Choicest Dish

Just as it may be shown that every form of salutation takes its origin either in some religious observance or some curious medieval ceremony, so may it also be shown that the simplest rules of etiquette are traceable, in their essence, to that unselfishness of nature, and that kindly consideration for others, which Ruskin, as we have just seen, defines as "fineness of nature," and adduces as the touchstone of genuine breeding. To listen with patience, however prosy our entertainer may be; to smile at the thrice-told jest; to yield the best seat, or the choicest dish, or the most amusing volume, are acts, not of mere civility, but of kindness and unselfishness. So of every other prescribed rule of social conduct —so of that abstinence from interruption or contradiction in conversation; of that suppression of a yawn; of that cheerful countenance concealing inward anxiety or weariness; of those perpetual endeavors to please and to seem pleased, which end by becoming a second nature to the really well-bred person. Analyze each one of these acts, and it resolves itself into a concession toward the feelings, the vanity, or the comfort of others. Its essence is unselfishness. Its animating spirit is forbearance. The proposition is demonstrable by a process of reversal. If goodness be the parent of politeness, is not badness the parent of vulgarity? Is not bad temper vulgar? Is not selfishness vulgar? Is not scandal vulgar? Are not greediness, egotism, inquisitiveness, prevarication, lying, and dishonesty, one and all, utterly vulgar? In a word, is not vice vulgar?

How, then, Shall Good Breeding Be Instilled in Children?

If, then, we desire that our children shall become ladies and gentlemen, can we make them so, think you, by lavishing money upon foreign professors, dancing masters, continental tours, tailors, and dressmakers? Ah, no! good breeding is far less costly, and begins far earlier than those things. Let our little ones be nurtured in an atmosphere of gentleness and kindness from the nursery upward; let them grow up in a home where a rude gesture or an ill-tempered word are alike unknown; where between father and mother, master and servant, mistress and maid, friend and friend, parent and child, prevails the law of truth, of kindness, of consideration for others, and forgetfulness of self. Can they carry into the world, whither we send them later, aught of coarseness, of untruthfulness, of slatternliness, of vulgarity, if their home has been orderly, if their parents have been refined, their servants well-mannered, their friends and playmates kind and carefully trained as themselves? Do we want our boys to succeed in the world; our girls to be admired and loved; their tastes to be elegant; their language choice; their manners simple, charming, graceful; their friendships elevating?—then we must ourselves be what we would have our children to be, remembering the golden maxim, that good manners, like charity, must begin at home.

What Emerson Has to Say on This Subject

Good manners are an immense social force. We should therefore spare no pains to teach our children what to do, and what to avoid doing, in their pathway through life. "When we re-

flect," says Emerson, "how manners recommend, prepare, and draw people together; how, in all clubs, manners make the members; how manners make the fortune of the ambitious youth; that, for the most part, his manners marry him, and, for the most part, he marries manners; when we think what keys they are, and to what secrets; what high lessons and inspiring tokens of character they convey; and what divination is required in us for the reading of this fine telegraph, we see what range the subject has, and what relations to convenience, form, and beauty." Again the same writer says, "The maxim of courts is power. A calm and resolute bearing, a polished speech, an embellishment of trifles, and the art of hiding all uncomfortable feelings, are essential to the courtier. Manners impress, as they indicate real power. A man who is sure of his point carries a broad and contented expression, which everybody reads; and you cannot rightly train to an air and manner, except by making him the kind of man of whom that manner is the natural expression. Nature forever puts a premium on reality."

The Little Leaven of Vulgarity

On utilitarian as well as social principles, we should try to instruct our children in good manners; for whether we wish them to succeed in the world or to adorn society, the point is equally important. We must never lose sight of the fact that here teachers and professors can do little, and that the only way in which it is possible to acquire the habits of good society is to live in no other.

"A blockhead makes a blockhead his companion," says Emerson; and so will a little leaven of vulgarity leaven the whole social lump. No habit is so easily acquired as a habit of awkward gesticulation; no slovenliness so insidious as that of incorrect speech. He who wishes to be a gentleman must associate only with those whose tastes and habits are gentlemanly, and whose language is refined.

Good Manners Are Most Gratifying in the Home Circle

Manner is only to be defined by a series of negations. The well-bred person has no manner. The well-bred person is distinguished from the ill-bred person, not by what he does, but by what he leaves undone. The well-bred person just differs from the ill-bred person in that he knows what he ought not to do. The very best breeding consists chiefly in the utmost unobtrusiveness. To be well bred and well mannered, in short, is to keep down the *ego* upon every occasion; to control every expression of strong feeling; to be of noiseless bearing and gentle speech; to abstain from all that may hurt the feelings or prejudices of others; to make small sacrifices without seeming to make them; in a word, to remember that in society one lives for others and not for oneself.

But politeness is not like a robe of state, to be worn only upon occasions of ceremony. In no place do the laws of etiquette bear more gratifying results than in the home circle, where, stripped of their mere formality, tempered with love, and fostered by all kindly impulses, they improve the character and bear their choicest fruits. A true gentlewoman will show as much courtesy, and observe all the little duties of politeness as unfailingly, toward her parents, husband, and family as toward the greatest strangers. A true gentleman will never forget that if he is bound to exercise courtesy and kindness in his intercourse with the world, he is doubly bound to do so in his intercourse with those who depend upon him for advice, protection and example.

True Politeness Is the Outward and Visible Sign of Inward and Spiritual Graces

Etiquette may be defined as the minor morality of life. No observances, however minute, that tend to spare the feelings of others, can be classed under the head of trivialities; and politeness, which is but another name for general amiability, will oil the creaking wheels of life more effectually than any of those unguents supplied by mere wealth or station.

Etiquette is not politeness, but only the mere external vesture of it; too often the mere counterfeit. True politeness is the outward visible sign of those inward spiritual graces called modesty, unselfishness, generosity. The manners of a gentleman are the index of his soul. His speech is innocent, because his life is pure; his thoughts are direct, because his actions are upright; his bearing is gentle, because his blood, and his impulses, and his training, are gentle also. A true gentleman is entirely free from every kind of pretense. He avoids homage, instead of exacting it. Mere ceremonies have no attraction for him. He seeks not to say civil things, but to do them. His hospitality, though hearty and sincere, will be strictly regulated by his means. His friends will be chosen for their good qualities and good manners; his servants, for their truthfulness and honesty; his occupations for their usefulness, or their gracefulness, or their elevating tendencies, whether moral, or mental, or political. And so we come round

again to our first maxim; *i.e.*, that "good manners are the kindly fruit of a refined nature."

Good Manners in Womankind—The Machinery of a Well-Ordered Household

And if this be true of mankind, how still more true is it of womankind! Granted that truthfulness, gracefulness, considerateness, unselfishness, are essential to the breeding of a true gentleman, how infinitely essential must they not be to the breeding of a true lady! That her tact should be even readier, her sympathies even tenderer, her instincts even finer, than those of the man, seems only fit and natural. In her all the minor observances of etiquette are absolutely indispensable. She must be even more upon her guard than a man in all those niceties of speech, look, and manner, which are the especial and indispensable credentials of good breeding. Every little drawing-room ceremonial, all the laws of precedence, the whole etiquette of hospitality, must be familiar to her. And even in these points, artificial though they be, her best guide, after all, is that kindness of heart which gives honor where honor is due, and which is ever anxious to spare the feelings and prejudices of others.

Every mistress of a house, be it remembered, is a minor sovereign, upon whose bounty the comfort, and happiness, and refinement of her little court depend. She must take especial care that her servants are capable, well trained, and reliable, and that her domestic arrangements are carried on as noiselessly and easily as if by machinery. In a well-ordered household the machinery is always in order, and always works out of sight. No well-bred woman talks of her servants, of her dinner arrangements, or of the affairs of her nursery. One feels these matters to be under her surveillance, and that fact alone is a guarantee of their good management. The amusements and comforts of her guests are provided for without discussion or comment; and whatever goes wrong is studiously withheld from the conversation of the drawing-room. And let no lady, however young, however beautiful, however gifted, for one moment imagine that the management of her house can be neglected with impunity. If she is rich enough to provide an efficient housekeeper, well and good; but even so the final responsibility must still rest upon her, and her alone. No tastes, no pleasures, must stand in the way of this important duty; and if even that duty should at first seem irksome, the fulfillment of it is sure to bring its own reward.

Good manners, of course, presuppose good education. "Crabbed age and youth" are as incompatible associates as ignorance and high breeding. Let, therefore, those persons who from adverse circumstances have not run through the ordinary curriculum of a liberal education early in life, begin the reformation of their manners by the cultivation of their minds. And mere knowledge is not of much value, unless the taste be cultivated. Some familiarity with the best schools of art and music is now made not only possible but easy to persons of all classes. Museums, schools of art, reading rooms, lecture halls, loan exhibitions, and the like have of late years placed such means of culture as were unattainable by gentlemen and nobles of a hundred years ago within reach of the humblest mechanic. If knowledge is power, taste, be it remembered, is delight. Without taste, knowledge becomes mere pedantry, and study remains to the last unfruitful and unattractive.

HINTS FOR HAPPINESS

BY

FRANK A. DE PUY

An earnest desire to make home happy, coupled with an earnest effort to carry out that desire, is as certain to help bring happiness into the home as day is to follow night. The very effort to give pleasure to those around us gives pleasure to ourselves. Nothing else brings us so sure and so great a reward as to try to make others happy. The family in which each member is striving to make his companions happy can never be other than happy.

Each member of the household must be animated with the earnest desire to be helpful, kind, considerate to all the loved ones in the family. Where there is true mutual affection, where each seeks to share the other's burdens, and thus lightens them, where all—husband, wife, father,

mother, brothers, and sisters—are united in love and sympathy—there the ideal home is found. It matters not whether it be in a palace or a cottage, whether it be blessed with abundance or burdened with deep poverty, the home in which piety dwells is the real ideal American home.

It is not a hard thing to do—to make one's home happy.

Cheerfulness an Essential Element

Fortunate is the one who can see the bright side of things, the silver lining that belongs to every cloud. That the lining is there we all know. We can all see it if we will only look for it. If we do not have the happy faculty of seeing the bright side without looking for it, we can cultivate it. If we try for only a little time to keep our eyes turned from the dark things of life, it will be found an easy habit to acquire. At the very least, we need not point out to others the dark side we see ourselves. If we choose to stay in the shadow ourselves, we need not withhold the sunshine from others. Cheerfulness is an essential element in the make-up of a happy home.

There is no greater enemy of cheerfulness than sulking. Most of us have hours when we feel "out of sorts," when we can be neither cheerful nor even pleasant to those around us. When these hours come there is one safe rule to follow—we can keep away from others. When the cross mood comes over us we should shut ourselves up with it alone. While we are under its baneful influence we should avoid every person for whom we care. We have no right to be cross and ill-tempered to others because we happen to feel that way. A single petulant word spoken in an unfortunate moment may spoil the happiness of a whole family.

Lock yourself in your own room and stay there until you are sure you can meet your loved ones with smiles. It will be helpful to them and helpful to yourself.

Show Consideration for Members of Your Own Family

No one would think of speaking harshly to a friend or a guest. Surely the members of our own families are entitled to as much consideration as our friends or guests. Yet how many times do we find fault in the home circle for little things that we would hardly notice elsewhere! It is the little things that make or mar the home life. Kind words and gentle acts make the happy home. Sympathy, help, and comfort should not be extended to one's companions only when illness or trouble has overtaken them.

Nothing is worse in the family circle than nagging. There will be no nagging where each one in the family is considerate of the feelings of others. Rough and hasty words have no place in the happy home. If we are considerate of those around us, no such words will be heard in our families.

Training in Courtesy Should Begin Early

"Thank you" belongs as much to our parents and children as to total strangers. We would not think of accepting an act of kindness from a stranger without acknowledging it with thanks. Why should we neglect to be courteous to those who are kind to us at home? The wife, the husband, the child who brings us something we want, who does some little errand for us, who brings us a book, a glass of water, or a chair, should receive as grateful thanks as would be given to one not in the family.

The value of courtesy extends far beyond the home circle. Children who have learned to be courteous by the example of parents at home grow up into courteous men and women, and by their courtesy help to make other men and women happy. Bring up your children to be courteous at home, and you add to the sum of happiness in the world.

Let the children's training in courtesy begin in the nursery. The little one who is old enough to ask for favors is old enough to learn to say "Please" and "Thank you."

Patience with Children Must Be Insisted upon

The hasty word or act has no place in a happy home. Just stop a moment before you scold or punish your child for some little act he ought not to have committed. In that moment you may recall some excuse for the act that will make it less wrong and the punishment uncalled for. Be patient with the little ones. How can you expect them to know as much or do as much as their elders? When your child asks a question be patient enough to answer him. It is the child's right to be taught, and he can learn only by asking questions.

Half the little annoyances of life will disappear if one is only patient under them. Almost all the other half will go the same way if one does not worry over them. Do not worry. There is no greater fallacy than the idea that "somebody has got to worry to keep the world going." Too many people have an idea that it is their duty to worry. They give a mistaken meaning

to "worry." Looking out for the future is not "worrying," and "worrying" is not looking out for the future.

Worry Was Not Intended to Be Part of Man's Mental Structure

It is when all worry has been put aside that one can best prepare for the future. The mind free from worry is in the best condition to make plans which are to lead to success. Fix in your mind the right definition of "worrying," and ask yourself if you ever knew of a case in which worrying was beneficial. Your answer is sure to be "No."

"I have proven the proposition over and over in my own experience," says Mary Boardman Page, "and I tell you it is wholly true, that worry was never intended to be a part of the mental structure of man. It is a vicious and unnatural habit into which we have fallen through generations of artificial thinking. So far from stimulating and helping us to action, it cheats us and robs us of strength. What friction is to the mechanical world, worry is to the mental machinery. It retards motion and lessens force, and as the most perfect machine is the one in which friction plays the least part, so the best equipped and most successful mentality is the one in which worry is most eliminated.

"Nature never worries. If you would not worry, you have only to let Nature's law of not worry enter into you and have its way. Nature's law is stronger than any little law you have made for yourself. Not worry will drive out worry if you will only be still and let it. This attitude of mind is one that is well worth cultivating. Trust yourself to it."

Every Member of the Family Can Be Helpful

Each member of the family can do something toward making home happy. Especially is this true of the young people. Too many boys and girls get the notion that their parents who provide the home must be the only ones to make it attractive. Every boy and every girl can be helpful at home. They can help father and mother in a host of little things, and they can help in the pleasures of home life. The boy or girl who finds the mother busily sewing for him or her, can easily spend a half-hour reading aloud from the mother's favorite book or paper. The daughter who has been taught to play on the piano can often smooth the wrinkles out of her tired and care-worn father's brow by playing for him his favorite pieces. Let every son and daughter give a moment's thought to what he or she can do to help brighten the home—and then do it. There can be no question of the result.

Frankness in the Home Circle

Let every member of your family learn that you are to be trusted. It is a painful thing when children are found questioning the things they are told by father or mother, but they learn to do so very quickly when parents get into the habit of deceiving them. There should be no secrets between husband and wife or parent and child. "Honesty is the best policy" in the home as well as in the business world. If you cannot answer truthfully the questions put to you in the home circle, do not answer at all. "A man should never be ashamed to own that he has been in the wrong," Alexander Pope wrote. "It is but saying in other words that he is wiser to-day than he was yesterday."

The Happy Home Is Neat and Clean

It is hard to imagine a happy home that is neither neat nor clean. The most humble little home can be as neat and clean as the finest mansion in the world. Neatness and cleanliness in the home are sure to lead to neatness and cleanliness in the persons of all in the home.

No home is attractive in which the wife and mother is careless in her personal appearance or slovenly in allowing dirt to accumulate in any room. The husband and father, too, should be careful of his personal appearance. Undoubtedly he was so before his marriage. Surely his wife is not less to be thought of than when she was his sweetheart. Dirt and untidiness have driven many a man away from what might otherwise have been a happy home.

Be Clean and Well-Bred in Language

Neither at home nor anywhere else should bad language be indulged in. Profanity has no place in the vocabulary of a gentleman. It is never heard in the happy home. Clean language tends in itself to engender and preserve clean thoughts. Give no language to other thoughts, and they will soon die.

Avoid slang. Not only is slang ill-bred, but its use tends to lower the moral tone of the whole family circle. If parents use slang, their children will use it. Slang words are noxious weeds in the garden of conversation. They must be rooted out, or they will overshadow and choke the flowers of good language.

Grumbling Is Useless—Shun It

Make the most and the best of your surroundings. Grumbling does no good. Shun the habit

as you would the plague. Do not grumble over your house. If there is anything wrong about it, change it. If you cannot change it, bear with it as best you can and stop complaining. Ignore it. To let an unpleasant thing alone minimizes its unpleasantness. If you never grumble at others, they will have less reason to grumble at you.

Before you grumble, stop and think whether the things you want to complain of can be bettered. If they can, try and better them. If they cannot, it will do no good to grumble. If you feel like grumbling at your lot in life, look around you. See how many persons there are among your own acquaintances for whose lot you would not care to exchange your own. Then stop grumbling. No home can be happy that shelters a grumbler.

Do not be contented in the sense of never trying to better your condition. A legitimate ambition to get ahead in the world is an essential ingredient of real happiness. One must work to enjoy life, and the incentive for work is the desire to improve one's condition in life. True contentment does not interfere with advancement. Add to your blessings all you can, but meanwhile do not be discontented with those you have.

Generosity in Everyday Life

Selfishness has no place in a happy home. Share the joys and the pleasures of your life with all the members of your family. What right have you to ask for care and attention if you are unwilling to return them? Especially should selfishness be guarded against where there are children in the household. Parents who set the example of selfishness cannot expect their children to grow into generous men and women.

Teach your children to be generous in the everyday matters of life. Let the child be taught to share with those around him the things that give him most pleasure—but let him be taught by your example rather than by precept. Do not always insist upon having your own way. Even if you feel that your way is the best, it is wise to be generous sometimes and give way to others.

Politeness Should Begin at Home

Good manners have a great deal to do with happiness. They are almost an absolute necessity for success in business or professional life. It is a sad mistake to drop good manners at home. To be good-mannered is to consider the rights and comforts of others before one's own, and this is just the spirit that should be found in the home circle. Children should not have to go away from home to learn to be polite. They should be taught by the constant example of father and mother. Horace Mann wrote long ago that manners easily and rapidly mature into morals. As childhood advances to manhood the transition from bad manners to bad morals is almost imperceptible. It is an old and true saying that "the truest courtesy is the truest Christianity."

Gentleness and consideration for others are at the foundation of good manners. In business and social life politeness is of vast importance. Good manners often count as much or more than ability in turning the scale toward promotion. It is of little use to possess kindly feelings if you cannot express them in a kindly way.

Living within One's Means

Do not be niggardly or stingy—but live within your means. No home can be truly happy over which hangs the dark cloud of debt. No matter how small your income, nothing but the most absolute necessity should permit you to exceed it in your expenditures. Only by keeping one's outgo less than one's income can one "get ahead" in this world.

Do not leave all the economy to the wife and mother. Never fear but she will do her share of the saving. Watch your own personal expenses. If you find yourself indulging in pleasures or habits that are purely personal, and therefore purely selfish, cut them off and see what pleasure can be given to the whole family with the money thus saved. Why should the wife be forced to go with a shabby or out-of-date bonnet while the husband spends the price of a dozen bonnets for cigars?

Avoid "accounts" in the stores. To have credit in the retail stores is always a temptation to use it. It is better to "pay as you go." It is harder to pay for a thing after you have had it than when you buy it. Then, too, one does not realize how the bills are mounting up when one is simply having purchases put on the "charge account." It takes the monthly bill to show how thoughtlessly extravagant one has been. It is always easier to save money when one buys for cash only. "He that goes a-borrowing goes a-sorrowing," said Poor Richard.

Writing of his ideal of a perfect life, Robert Louis Stevenson said: "To be honest, to be kind, to earn a little and to spend a little less; to make, on the whole, a family happier by his presence; to renounce when that shall be necessary and not to be embittered; to keep a few friends, but these without capitulation; above all, on the same grim conditions, to keep friends with himself—here is

a task for all that a man has of fortitude or delicacy."

"Neither a borrower nor a lender be:
For loan oft loses both itself and friend,
And borrowing dulls the edge of husbandry,"

Shakespeare declares. Shun extravagance, avoid ostentatious display, repress the desire to outshine others, refrain from foolish rivalries with your acquaintances, and you will find it less difficult to keep out of debt.

MATRIMONIAL JARS

EDITED BY

MARION HARLAND

WHEN the sunshine of domestic bliss has become more or less clouded by quarrels between a husband and a wife, observers very often describe the state of affairs by the euphemism, "They had a few words." This is the immediate cause of many a domestic catastrophe. A young man was sent to Socrates to learn oratory. On being introduced to the philosopher he talked so incessantly that Socrates asked for double fees. "Why charge me double?" said the young fellow. "Because," said Socrates, "I must teach you two sciences: the one how to hold your tongue, and the other how to speak." It is impossible for people to be happy in matrimony who will not learn the first of these sciences. The simple act of self-denial in restraining the expression of unpleasant feelings or harsh thoughts is the foundation stone of a happy home; for nothing draws people so closely together as the constant experience of mutual pleasure, and nothing so quickly drives them asunder as the frequent endurance of pain caused by one another's presence.

"One doth not know
How much an ill word may empoison liking."

Sometimes the husband blames the wife, and the wife the husband, when neither of them is at fault.

"Fair Water," and Nothing More

Burton tells of a woman, who, hearing one of her "gossips" complain of her husband's impatience, told her an excellent remedy for it. She gave her a glass of water, which, when he brawled, she should hold still in her mouth. She did so two or three times with great success, and at length, seeing her neighbor, she thanked her for it, and asked to know the ingredients. She told her that it was "fair water," and nothing more; for it was not the water but her silence which performed the cure. There are people who are kind in their actions and yet brutal in their speech, and they forget that it is not every one who can bear, like Boswell, to be told he is a fool. A woman may think she is always right and her husband always wrong, but it does not make the wheels of domestic life run smoother to say this in plain English. A man may have a contempt for his wife's dearest brother, but to tell the wife or brother so is not conducive to harmony.

That Dangerous "Last Word"—What Is the Good of It?

The "last word" is the most dangerous of infernal machines. Husband and wife should no more fight to get it than they would struggle for the possession of a lighted bomb-shell. What is the use of the last word? After getting it a husband might, perhaps, as an American newspaper suggests, advertise to whistle for a wager against a locomotive; but in every other respect his victory would be useless and painful. It would be a victory in which the victor would suffer as much as the vanquished. A farmer cut down a tree which stood so near the boundary-line of his farm that it was doubtful whether it belonged to him or to his neighbor. The neighbor, however, claimed the tree, and prosecuted the man who cut it, for damages. The case was sent from court to court. Time was wasted and temper lost; but the case was finally gained by the prosecutor. The last of the transaction was, that the man who gained the cause went to the lawyer's office to execute a deed of his whole farm, which he had been compelled to sell to pay his costs! Then, houseless and homeless, he thrust his hands into his pockets, and triumphantly exclaimed: "I've beat him!" In the same way husband and wife may become bankrupt of heart-wealth by endeavoring to get the last word.

The Propensity to "Nag"

Men sometimes become fractious from pure monotony. When they are unable to find subjects for profitable conversation there arises a pro-

pensity to "nag" and find fault. In a Russian story two prisoners are talking in the night, and one relates: "I had got, somehow or other, in the way of beating her" (his wife). "Some days I would keep at it from morning till night. I did not know what to do with myself when I was not beating her. She used to sit crying, and I could not help feeling sorry for her, and so I beat her." Subsequently he murdered her. Are there not men above the class of wife-beaters who indulge in fault-finding, "nagging," and other forms of tongue-castigation? They have got into the habit. They do not know what to do with themselves when not so employed. The tears of their wives only irritate them.

Word-Battles Are Very Poor Fun

Matrimonial word-battles may amuse outsiders as the skill of gladiators used to amuse, but the combatants make themselves very miserable. Far better to be incapable of making a repartee if we only use the power to wound the feelings of the one whom we have vowed to love. There is an art of putting things that should be studied by married people. How many quarrels would be avoided if we could always say with courtesy and tact any unpleasant thing that may have to be said! It is related of a good-humored celebrity that when a man once stood before him and his friend at the theater, completely shutting out all view of the stage, instead of asking him to sit down, or in any way giving offense, he simply said: "I beg your pardon, sir; but when you see or hear anything particularly interesting on the stage, will you please let us know, as we are entirely dependent on your kindness?" That was sufficient. With a smile and an apology that only the art of putting things could have extracted, the gentleman took his seat.

Three Good Laughs during Dinner

The very worst time for a husband and wife to have "a few words" is dinner-time, because, if we have a good dinner, our attention should be bestowed on what we are eating. He who bores us at dinner robs us of pleasure and injures our health, a fact which the alderman realized when he exclaimed to a stupid interrogator: "With your confounded questions, sir, you've made me swallow a piece of green fat without tasting it." Many a poor wife has to swallow her dinner without tasting it because her considerate husband chooses this time to find fault with herself, the children, the servants, and with everything except himself. The beef is too much done, the vegetables too little, everything is cold. "I think you might look after something! Oh, that is no excuse!" and so on, to the great disturbance of his own and his wife's digestion. God sends food, but the devil sends the few cross words that prevent it from doing us any good. We should have at least three laughs during dinner, and every one is bound to contribute a share of agreeable table-talk, good-humor and cheerfulness.

"According to Milton, 'Eve kept silence in Eden to hear her husband talk,'" said a gentleman to a lady friend; and then added, in a melancholy tone: "Alas! there have been no Eves since." "Because," quickly retorted the lady, "there have been no husbands worth listening to." Certainly there are too few men who exert themselves to be as agreeable to their wives as they are to the comparative strangers or secret enemies whom they meet at clubs and other places of resort. And yet if it is true that "to be agreeable in our family circle is not only a positive duty but an absolute morality," then every husband and wife should say on their wedding day:

> "To balls and routs for fame let others roam,
> Be mine the happier lot to please at home."

The true marriage is the result of years of mutual endeavor to please, and comes of patient efforts on the part of husband and wife to learn each other's disposition and tastes. Human character, by a wise provision of Providence, is infinitely varied, and there are not two individuals in existence so entirely alike in their tastes, habits of thought, and natural aptitude, that they can keep even step with each other over all the rough, difficult places in the journey of life.

A CHART OF CHILD DEVELOPMENT

For Use in Connection with the Manual

Upon the Basis of

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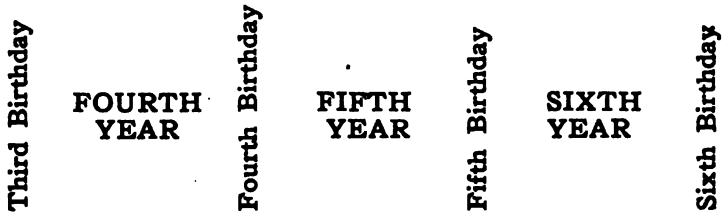
EXPLANATION OF THE CHART

This chart is a simple summary of the principal facts in the development of a child. When a fact is stated as true of a certain age or period, what is meant is that so far as studies have been made, this is about the time when such a fact is true in the lives of average children. Strictly speaking, however, there is no such thing as an "average" child, and perhaps no child ever lived who entirely conformed to this or any other chart. A mother is, therefore, not to be concerned if her own child does not at a given age match that age in the chart in every particular. The probability is that if she will turn to either a preceding or a following page she will find appropriate data. The chart is true rather to the general order of a child's growth than to his years.

In placing a child in the period to which he belongs, the reader will, of course, bear in mind that a child who is "four years old," for instance, is in the *fifth* year of his life. This little chart has been found helpful as a reminder:



The chart has four columns, one each for the physical, the mental, the social, and the moral and religious development. No physical fact is entirely physical: it has mental, social, and moral relations. When a fact is put in the first column, it is because it seems to be of predominantly physical significance. And so elsewhere. The lower part of each column is devoted to suggestions as to care and training in that particular field. These suggestions grow directly out of the facts listed above.

Abundant references to the text of the MANUAL have been inserted. These references (given in brackets) indicate in which volume, and on what page of that volume, a particular subject is treated. This reference-feature enables the mother who is studying her child to turn at once to just the information and help she needs.

Just following the two facing-pages which give the main facts and suggestions for each year or period is a third page, entitled "What an Average Child May Be Able to Do by the End of This Year (or, Period)". Here are given, in brief tabulated form, usually about a dozen achievements that have actually been performed by a child of the age indicated. These, it is needless to say, have been accomplished by the directed, not the neglected, child. They will be found useful by the practising mother in guiding and measuring her own progress as the teacher and helper of her child.

Interspersed throughout will be found memorandum pages for the parents' record of the study of their own children. The filling-out of these pages may be made of fascinating interest and of inestimable benefit. Guided by the chart, the mother may record the physical, mental, and moral development of the children; and the very doing of this will lead her to a closer study of them, and so enable her to know them better. Such a record cannot but help the parents to a more intelligent attitude toward their children, and in the years to come may help the children to a better understanding of themselves.

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A CHART OF CHILD DEVELOPMENT

FIRST YEAR (From Birth to the First Birthday)

PHYSICAL DEVELOPMENT

[I. 204-211]

Movements: at birth, undirected [I. 170]; 2d month, hand to mouth, lifting head; 3d month, supporting head, conscious grasping; 3d to 4th months, sitting efforts; 5th month, handling objects; 6th to 9th months, sitting unsupported; 6th to 7th months, standing efforts; 7th to 8th months, creeping; 9th to 10th months, standing; 12th to 18th months, walking [I. 210]. In general, motion centers first about the mouth, then the hands and feet, first to get things where he can observe them, and then to get to where they are.

Proportions: at birth, head great, chest small, abdomen prominent, arms and legs short, legs bowed [I. 204, 205].

Weight: at birth 5 to 10 pounds; average 7 to 7½; boys heavier than girls; at 1 year, boys 1 pound heavier [I. 204].

Height: at birth, 16 to 22 inches; at 1 year, average 27 inches [I. 382].

Respiration: abdominal, 40 down to 30. Pulse, 150 down to 120, with variations [I. 283].

Temperature: 99 down to 98 [I. 204, 212].

Dentition: 1st teeth, 5th to 9th months; 2d group, 8th to 12th months; 3d, 12th to 18th months [I. 209].

MENTAL DEVELOPMENT

[I. 169-171]

Sense development [I. 170]; sense of contact and temperature soon after birth; touch soon grows out of first; sight, or light-consciousness, 1st to 3d days; directing and fixing eyes, about 6th week; hearing, 1st to 4th days—signs indicating hearing often come in first hours; taste and smell last of senses to develop, time varies during 1st weeks; consciousness of rhythm, 2d month; of musical tones, about 12th month; distinguishing color, 10th to 12th months [II. 33, 34].

Emotions: emotional crying, 3d or 4th months [I. 205, 206]; varied emotions, 10th to 11th months; crowing, 2d to 3d months; laughing, 3d to 5th months [II. 135-137, 169-171].

Memory: recognition of mother, at 3d month; of others, 4th to 5th months; of experiences, 6th to 12th months. All memory transient and held for a few days only.

Understanding: tones (in voice of mother), 3d to 5th months; signs, 5th to 9th months; words, about 9th month [I. 171].

Speech: cooing, 3d month; vowel sounds, 6th month; a few words, 12th to 15th months.

Mental activities: trial and success, about 10th week; sense of place and direction, 5th to 7th months; development of active curiosity and interest in things and persons, 4th to 5th months.

Imitation of acts of others, from 7th month; pleasure in showing off, 10th to 12th months [II. 171].

Comparison of objects noticeable, during second half of year.

Instincts: anger, 1st month [II. 137]; fear, 2d month; curiosity, 5th month; play, 5th to 6th months.

PHYSICAL SUGGESTIONS

[I. 177-220]

Sleep: to 3d month, 22 hours; to 6th month, 20 hours; to 12th month, 16 hours [I. 186-188, 202].

Hygienic protection: furnish cleanliness, fresh air, sunlight, warmth [I. 188-192, 194, 203]; keep regular records of temperature, weight, height, food, bowel movements, etc. [I. 204-211]; shortened garments for creeping, 6th month [I. 253].

Food: mother's milk, if possible [I. 166-169], followed by prescriptions of mixed foods by physician [I. 177-186].

Exercise: change position from 1st day; seat the child upright with support, 3d to 4th months; offer toys to encourage stretching, reaching, grasping, leg and trunk motions and creeping [I. 190, 207], 4th month; give standing exercises from 8th month [I. 209]; help walking, from 11th month [I. 210].

Habits: all the above with regularity [II. 10]; avoid sucking habits, pacifiers, emotional tricks [I. 209].

MENTAL SUGGESTIONS

[II. 33-37]

Avoid jolting, loud noises and over-stimulation, from the first [II. 170].

Play: to stimulate curiosity, trial and success, from 5th month; to encourage imitation and memory, from 7th month; to teach vowel sounds and meaning of words, 8th to 9th months; in general, self-amusement and self-directed play, from 5th month. Give few simple little toys; play with mother, from 5th to 6th months; with others, 8th month [I. 207].

Sense training: use varied objects to exercise touch and sight, from 2d month; bright objects, from 4th month; lullabies and soft music, from 2nd month; colors, toward close of year [II. 34-36].

By frequent repetitions, help to understand simple words, from 4th month. Begin to try to get child to say a few words, end of year.

A CHART OF CHILD DEVELOPMENT

FIRST YEAR

SOCIAL DEVELOPMENT

Consciousness of touch of mother, 1st to 3d weeks; recognition of others, 3d to 5th months.

Sociability (beginning of), 5th month.

Affection, aversion and imitation first shown, 3d to 8th months.

Dependence and sympathy evident, 7th month and after.

Realization of the approbation of others, 4th to 5th months.

Individualist throughout the year; influenced by others, but self-centered, 9th to 10th months.

In general **the pre-social stage.**

MORAL DEVELOPMENT

No moral sense.

Sense of comfort or discomfort **[II. 9]**, leading to

Pleasure and displeasure.

Docility, with some tendency to oppose conditions rather than persons, toward end of period.

Impressibility by the will of others.

Trustfulness in others.

Dependence.

Desire to please, 5th to 6th months, forming basis of

Obedience.

SOCIAL SUGGESTIONS

Give watchful **companionship** of mother from 1st month **[II. 33, 34].**

Carry baby to sunlight, about room, etc., from 2d month.

Talk to the child from 3d to 5th months.

Coöperative play from 7th month.

Give example of calmness in speech, quietness in manner, cheerfulness, self-control, from the first. Avoid anger by absence of provocation, by solitude and quiet **[I. 207].**

Make expressions of affection and sympathy, especially in second half of year.

Play simple games after 8th month, with parents and children of family. Not by others. Games: "How Big Is the Baby?" "Pat-a-Cake," "This Little Pig Went to Market," etc.

Teach to recognize kindred, by repeating their names, and later to repeat them himself.

MORAL SUGGESTIONS

Fix regular, simple habits as to eating, sleeping, dressing, playing **[II. 11].** No sucking habits **[I. 206, 207]** or pacifiers **[I. 203, 209, 213].**

Train for obedience through habits of regularity, submission and self-control.

Drill to understand signs and simple commands and to obey them.

Give room for free action whenever possible within limit set by parent and understood by child.

Allow no emotional tricks by which the baby tries to "rule the roost."

WHAT AN AVERAGE CHILD MAY BE ABLE TO DO BY THE END OF THIS YEAR

(Arranged largely from data by MRS. ANNA G. NOYES, MRS. ALICE CORBIN SIES and MRS. HELEN Y. CAMPBELL)

NOTE.—The spaces between the items are intended for pencil annotations by mothers who may be testing their own children by these activities.

1. The first month he held up his head, when supported.

2. The second month he began to kick freely and to wave his arms. He recognized his mother's presence, and he smiled. He followed a bright light, a moving object, or a musical sound with his eyes.

3. The third month he laughed aloud, "talked" when talked to. Showed tendency to grasp things persistently.

4. The fourth month he found his hands.

5. The fifth month he began to try to sit up, and tried to reach after things to grasp them.

6. The sixth month he cut his first tooth, danced up and down on his mother's lap, and sat up alone for a few moments.

7. The seventh month he sat up alone for a long time, and tried to pull himself up to a standing position.

8. The eighth month he felt his feet, and began to creep.

9. The ninth month he got up on his feet at every opportunity.

10. The tenth month he could stand well by balancing himself against some object.

11. The eleventh month he took a few steps, holding his mother's hand.

12. The twelfth month he imitated some gestures of older people, and walked a little alone.

A CHART OF CHILD DEVELOPMENT

MEMORANDA

A CHART OF CHILD DEVELOPMENT

SECOND YEAR (From the First to the Second Birthday)

PHYSICAL DEVELOPMENT

Movements: climbing and pulling first of the year; walking 12th to 14th months; running alone 18th month; in play, larger muscular movements of arms and hands [I. 210].

Activities: increasing dexterity and control of hands; experimentation with objects; mimic play [II. 20].

Weight: beginning of year, average 21 pounds, end of year, 27 pounds [I. 148].

Height: beginning, average 27 inches, end, 31 inches.

Proportions becoming normal [I. 322].

Respiration, about 28.

Pulse, 120, down to 110 [I. 283, 284].

Temperature, as of adults [I. 284, 288, 289].

Dentition: at 1½, 12 teeth, at 2, 16 [I. 209].

MENTAL DEVELOPMENT

Senses: increasing mastery of colors, pleasure in colored pictures; sense of distance of near-by objects, sense of direction improving; sense of form, solidity and roughness increasing during the year; pleasure in musical tones common by 18th month, tuneless chanting not unusual then; sensitiveness to pain and temperature and of taste and smell noticeable toward close of year. (It is not easy to state definite months as to when these mental powers begin to be manifest, as experience and natural gifts vary.)

Speech: during 1st half of year, phrases; 2d half, sentences. Average number of words used by end of year 200-250.

Emotions: traces of personal temperament shown; moods, affected by teething; generally increasing joy in life, if health is good; pleasure, in physical sensations, color and play noticeable [II. 139].

Memory strengthening but not continuous; voluntary recollection not possible.

Imitation of literal acts of adults.

Reasoning develops through experience.

Instincts: fears many and lively [II. 140-142]; anger explosive; curiosity as to causes [II. 95]; play in transition from learning by handling to learning by imitating [II. 132-135].

Mental activities: passion for hand-touch and experimenting; imitative, not imaginative play; sense of self appears and with it self-assertion, self-will, better self-amusement, more will-power.

PHYSICAL SUGGESTIONS

Sleep: 12 hours at night and a 2 to 4 hours' nap.

Hygienic protection, as before [I. 211].

Food: milk as the staple broadening into an extended dietary [I. 251, 252]. Teach to feed himself.

Exercise: regular outdoor periods and sleeping; opportunities for climbing, pulling, walking, running, lifting, punching, manipulating, etc., especially for large muscles [I. 279, 280, 386].

Shoes: great care in selection of shoes (child is flat-footed) [I. 266].

Habits: regularity in sleep, exercise and play, the same things always done in the same way and at the same time [I. 349, 350].

MENTAL SUGGESTIONS

Sense training: give all sorts of touch-experiences and opportunities to "do like mother"; let the child listen always to low speaking voices and gentle singing and playing; have excursions for seeing, hearing and touching [II. 36, 37].

Teach correct speech by example—no "baby talk" [II. 83-86].

Guard from unnecessary terrors [I. 308], and do not show fear yourself; avoid seasons of temper by good health and not allowing teasing [II. 143, 144].

Drill in memory by inviting child to recall experiences, use action-drills, jingles and motion-songs.

Give simple toys for child's own experimentation, and enlarge intelligence by picture-books [II. 36].

A CHART OF CHILD DEVELOPMENT

SECOND YEAR

SOCIAL DEVELOPMENT

Likes companionship of adults, but does not care for children of same age as playmates.

Develops sense of self, so that he likes ownership of his own things [II. 248], and is capable of more self-amusement with them, but likes to watch adults and imitate them, talking, singing, working.

Spontaneous affection to kindred, but usually shyness with strangers.

SOCIAL SUGGESTIONS

Increase expressions of approbation and affection.

Do more things with the child, but encourage reasonable persistence and concentration in his doing alone [II. 236].

Do not encourage play with children except those of the home—this to be of non-stimulating nature and not too frequent. Insist that they carry out your own ideas of quietness, agreeableness and coöperation [I. 387].

No live pet. Pets which child can see but not touch help in development of social feelings.

MORAL DEVELOPMENT

What is approved by adults is right to the child.

Tendency to selfishness and jealousy alternates with generous giving and affection, toward close of the year [I. 103-106].

MORAL SUGGESTIONS

[I. 91-93; II. 10-18]

Habituate to a few simple requirements, without exceptions [I. 349, 350, 355].

State clearly, first, what is required and be unmoved by entreaty, lament or temper [II. 176-178].

Teach self-control by helping child to refrain from crying, teasing, wilfulness, temper, and by giving him time to make up his mind to obey. Don't drag him to a duty.

Teach:

Gentleness, by soft-speaking, and calmness of manner [II. 2].

Politeness, by never-failing courtesy to child as well as to adults, and by showing him what courteous words and acts are [I. 91, 92, 93, 104; II. 187].

Sympathy, by expressions of interest. Sometimes encourage expression of pity, but be careful of too much emotional excitement in this [I. 80; II. 139].

Unselfishness by always accepting child's offer to "share" any special delicacy. Also by example.

Emulation, by "showing how" [II, 139, 183].

Orderliness, by having corner, box or drawer for child's toys, and letting him put them away [I. 334; II. 10, 11, 16, 17, 170, 173, 194].

Obedience, by gentle firmness, never by impatient demand or catching up child and "putting him into place" [I. 355; II. 13, 42, 171].

Helpfulness, by sending him on little errands [II. 18].

WHAT AN AVERAGE CHILD MAY BE ABLE TO DO BY THE END OF THIS YEAR

(Arranged largely from data by MRS. ANNA G. NOYES)

1. Thirteenth month. Ran as well as walked. Climbed up and down stairs, alone.

2. Fourteenth month. Got up and down from sitting or lying position to his feet, without assistance of chair or person. Dug up his first shovelful of dirt.

3. Seventeenth month. Climbed on to dining-room table, from a chair, without assistance. Tried in little ways to "do like mother."

4. Nineteenth month. Walked up and down several flights of stairs alone. Tried to jump while walking.

5. Hit nails on the head with a hammer most of the time he tried.

6. Real pleasure in hearing musical tones. Could put two or three words together.

7. Twentieth month. Fed himself and did not spill much.

8. Twenty-second month. Manifestly more vigorous and sure in the movements and activities mentioned above.

9. Twenty-fourth month. Did little errands and tasks for mother in connection with her housework. Always ran when on an errand.

10. Could make up and use the simplest sentence.

A CHART OF CHILD DEVELOPMENT

MEMORANDA

A CHART OF CHILD DEVELOPMENT

THIRD YEAR (from the Second to the Third Birthday)

PHYSICAL DEVELOPMENT

Movements: running, riding and swinging; increased activity in manipulating toys and tools.

Muscular control better developed.

Physical resistance to disease good.

Weight: 27 pounds, increasing to an average of 32 pounds [I. 148].

Height: 31 inches, increasing to 35 inches.

Respiration, about 25.

Pulse, 110, down to 96.

Dentition: 20 teeth; complete by 2½ years [I. 209].

MENTAL DEVELOPMENT

Instincts: fears of an imaginative sort appear [I. 308, 334]; **curiosity** is more active and begins to take form of questions [II. 21, 22, 96]; **play** is more resourceful and becomes imaginative by middle of year [I. 52; II. 14].

Emotions, more stable [II. 135-140].

Memory, more particular, but not yet continuous; voluntary recollection begins.

Understanding: of the simpler properties of matter and the way things act, more definite. Continued interest in handling things to find out about them.

Speech: larger vocabulary and more accurate use of words. While individuals differ, most children use short sentences freely by end of year.

Mental activities: imagination now enables child to imitate not only literal acts of mother but also her purposes; actions therefore more purposeful and planned; motives become more individual and personal; **reasoning** still direct, though crude. Interest in stories, particularly of experiences with the bodily senses, that involve one's self, and include some little fancy [II. 122].

Likes to express self through crudest "drawings."

PHYSICAL SUGGESTIONS

[I. 251-255]

Sleep: 12 hours, and 4 to 2 hours' rest.

Food, as second year [I. 251, 252].

Exercise, as second year, with larger range for running; train to undress self [I. 253-255, 259].

Arrange for sand-pile play if possible [II. 238-240].

MENTAL SUGGESTIONS

[II. 243-255]

Further drill in recollection and attention [II. 108-113].

Exercises in sentence forming, and care in protection from slang, dialects and vulgarity. [II. 83-86].

Teach: simplest constructive use of blocks, spools, etc.; use of pencil; use of dull-pointed scissors [II. 233-236].

Provide playthings for exercising the imagination, such as blocks to be houses, dolls to be babies, etc. Encourage self-directed play of this sort [II. 17].

Answer questions plainly when child is attentive [II. 243, 244].

Tell fairy stories to develop imagination, but no gruesome ones [II. 23, 251-255, 270-275]. Use illustrated fairy-tale books.

Train the senses: variety of food to encourage likings of taste; odors of flowers for smell; more homely toys and playthings for touch; piano, pianola, phonograph and singing for hearing; bright colors to enjoy [II. 229, 230, 240].

A CHART OF CHILD DEVELOPMENT

THIRD YEAR

SOCIAL DEVELOPMENT

Distincter idea of self, with more self-assertion and real individuality of his own [II. 164].

Increased sympathy with others through imaginative sharing of their experiences, toward end of year. Also new antipathies.

Increased affection and desire for approbation, with first attempts to set will against another's.

In general, **the imitative and socializing stage** comes to fruition.

Development of social feelings, of courtesy, interest in others, kindness, lovingness, gentleness, slowly increases.

SOCIAL SUGGESTIONS

Continue expressions of affection and approbation, especially because of the increased sensitiveness.

Handle obstinacy calmly [II. 222].

Cultivate an interest in the child's imaginative play and suggest methods as you play with the child [II. 17].

Do not encourage too many playmates.

No live pet.

Protect the child's sense of property rights.

Encourage spirit of helpfulness in easy tasks.

Teach table manners and special courtesies [I. 99-103].

MORAL DEVELOPMENT

Conscience depends on approval of others, especially of mother.

Contrariness toward end of year—result of new self-consciousness.

Self-direction increases.

Obedience now decided by own choice and motive.

Courage grows out of conquered fears.

Self-control develops through obedience and restraint.

Play and fancy not distinguished from fact and truth.

Loyalty develops through simple responsibilities.

Orderliness develops through care of toys, personal clothing, etc.

MORAL SUGGESTIONS

[II. 172-184]

Continue last year's methods.

Emphasize obedience, for sake of safety. Make commands few, clear, complete.

Encourage self-direction in work, play and kindnesses [II. 164-167].

Teach table manners and courteous expressions, by word, by example, by playful exercises.

Do not collide unnecessarily with the child, but foil contrariness, by almost military and unquestioning submission [II. 437-439].

WHAT AN AVERAGE CHILD MAY BE ABLE TO DO BY THE END OF THIS YEAR

(Arranged largely from data by Mrs. Elsie La Verne Hill)

1. Walked between the rungs and along the rail of a ladder laid along the ground.

2. Did a lot of jumping.

3. Dug in the sand vigorously.

4. Used hammer and nails with increasing accuracy.

5. Used large pencil for sweeping "drawings" and "letters."

6. Listened to simplest incidents in story-form.

7. Enjoyed jingles and other Mother Goose rhymes and tried to repeat them.

8. Learned to open bed, hang up clothes and pick up playthings.

9. Marched to beat of piano-music.

10. Learned to undress self.

11. Ran little errands for mother.

12. Fed self without spilling.

13. Used short sentences freely.

A CHART OF CHILD DEVELOPMENT

MEMORANDA

A CHART OF CHILD DEVELOPMENT

FOURTH TO SIXTH YEARS (From the Third to the Sixth Birthday)

PHYSICAL DEVELOPMENT

[I. 275-280]

General Development:

Rapid growth of body and brains, 4th and 5th years; retarded before 6th year [I. 383; II. 14].

Resistance to diseases good, 4th and 5th years. Tendency to early fatigue before end of period. Retardation common, 6th year [I. 324-326].

Special pleasure in taste, 5th to 6th years [II. 31].

Muscular control gaining in strength and firmness [I. 279, 280].

Physical development toward close of period apt to be affected by school habits, confinement, poor sanitation and contagion, if exposed to such conditions [I. 275, 276, 390].

Weight: at 4 years, average 36 pounds; at 5 years, average 40 pounds; at 6 years, average 44 pounds [I. 204].

Height: at 4 years, average 37½ inches; at 5 years, average 40 inches; at 6 years, average 43 inches [I. 382].

Respiration: 20 to 25 [I. 283].

Pulse: 90 to 110 [I. 283].

Dentition: second dentition begins at 6th year with first four molars [I. 183, 217, 299, 341-343].

PHYSICAL SUGGESTIONS

Sleep: 13 hours, and rest from 1 to 3 hours [I. 36, 44, 46, 48, 271, 272, 276].

Foods for body-building, and special attention to nutrition needed from age of five [I. 57-66; 223-238].

Physical examination and vaccination before entering school, with special care of teeth [I. 339-344].

Guard against fatigue and contagion [I. 288-330].

Without neglecting the senses [II. 36, 37], the strong constructive instinct and motor interests are to be encouraged through tools and material [II. 253, 254].

Train the child to dress himself, 5th or 6th year.

Physical exercises outdoors, running, jumping and ball-play to be encouraged [II. 237, 241-243, 245-247, 261].

MENTAL DEVELOPMENT

[II. 14-23]

Instincts: curiosity shows itself by perpetual questioning, also by building [II. 245-247] and taking things to pieces; **play** runs out in two directions: lively motion, such as running, jumping and rhythmic dancing, and also play that represents adult activities, with some slight interest in formal games; both play and curiosity lead to running away [II. 94-96, 258-262].

Emotions, upset by new school conditions, more changeable [II. 135-140].

Memory more clear, consecutive and voluntary, as power of attention improves [II. 93, 94].

Understanding, definite ideas about everything; new notions from school and playmates.

Mental activities: imagination, lively, builds a fairy world in play; love of listening to fairy tales; attempts to print and represent a little by drawings; interest in color, 4th year, yields to new interest in form of things, 5th or 6th year; interest in play or work is in the activity itself rather than in the result, and so is not prolonged or continuous; all his activities (by the sixth year) are affected by the fact that he now has a larger environment than his home [II. 121-123, 266, 267]. Quick, eager spontaneousness is his mental keynote.

MENTAL SUGGESTIONS

[II. 44-57, 257]

For **home occupation,** give materials for weaving, moulding, drawing; blocks, balls and things for playing house, store, railroad, etc.; plants; objects to stimulate collections; free play rather than games [II. 235, 236, 250, 251].

Use the best Montessori and kindergarten ideas [II. 44-54] to enrich his experience in every possible way.

For **home requirement:** telling time, dressing, singing scale, counting up to 100, simple knitting, coarse sewing, helping about the house [II. 256, 257].

Home reading aloud [II. 230-233], singing [II. 261, 291], memorizing [II. 251-253, 254-256, 280-283].

Home nature study [II. 100, 101, 118].

Stories of fairies, animals and things near home [II. 270-277, 403-406].

Be a companion in the child's play, interests and school work [II. 42, 187].

Guard purity of speech [I. 358; II. 243, 244].

Give simple sex-information before entering kindergarten I. 11-13, 361, 362, 374, 375], and refute fears and superstitions picked up in school [II. 138-142].

A CHART OF CHILD DEVELOPMENT

FOURTH TO SIXTH YEARS

SOCIAL DEVELOPMENT

Imaginary companions common in 4th year [II. 125, 126].

The child now enjoys play with pets and other children.

Still selfish and self-assertive.

In general, the individual stage.

SOCIAL SUGGESTIONS

Supervise companionships and play, to supply initiative and prevent quarreling [II. 146-149].

Do not give too much responsibility for care lest pets suffer [II. 262-265].

Insist on responsibility for orderliness and special assigned tasks to teach partnership in home relations [I. 81-83; II. 249, 250].

Insist on acts of cheerfulness, patience and politeness. They tend to build the virtues of which they are the symbols [II. 457-459], and they are the basis of all his future social life.

Social feeling may be stimulated through appropriate stories [I. 73-75; II. 233, 234, 251-256, 270-275], and dramatizing such stories together [II. 260, 266-268].

Give confidential companionship to the child, especially at bedtimes and when he craves sympathy [II. 407-409].

Singing in the home is one of the best ways to develop the social life of the household [II. 261, 291].

MORAL DEVELOPMENT

At about 5th year strong independence, sometimes leading to revolt against authority [II. 55, 218, 219].

Imagination, leading to fear, also develops capacity of trust [II. 123-126].

Confused through imaginativeness or fear [II. 123-126].

First hero-worship (father, mother, policeman, etc.) appears [II. 201, 411-415, 451, 452].

MORAL SUGGESTIONS.

[II. 390-397]

Independence must not become disobedience at home or bullying away from home. Meet by interested activity.

The child should be trained to see and express truth clearly and never be scared into lying [II. 127-132].

Teach:

Truthfulness, by precept and example;

Loyalty, through love [II. 43, 44];

Courage, by story, example and commendation [II. 161, 388];

Self-confidence, through encouragement of effort [II. 139];

Self-control, by physical discipline and play [I. 332, 350-354; II. 406];

Caution, by explanation of the lessons of experience;

Personal reserve, by instruction, and a certain amount of repression;

Punctuality, by penalty for failure;

Cheerfulness, by example, interest and love [I. 104].

Teach the child to carry his trust of parental and other human strength over into trust in God [II. 409, 410, 435, 437-439, 454, 455].

Encourage original expressions of gratitude and trust in prayer.

Utilize the admirable qualities in the child's heroes as examples. Furnish others in stories, especially the Bible stories [II. 403-406].

Establish habit of attendance at Sunday-school about 5th year, and church about 6th year [II. 449-451].

Use his spontaneous feelings toward goodness in every possible way for kindly, generous activities.

WHAT AN AVERAGE CHILD MAY BE ABLE TO DO BY THE END OF THIS PERIOD

(Taken largely from data by the late NAOMI NORSWORTHY)

NOTE.—The words "he" and "his" wherever used in these lists generally apply to activities appropriate to girls as well as boys, unless otherwise indicated.
The spaces between the items are intended for pencil annotations by mothers who may be testing their own children by these activities.

1. He can attend to and control his bodily functions.

2. He can perform the simpler courtesies.

3. He can to some extent restrain the impulse to cry when disappointed or hurt, to kick and shriek when angry, to handle what he knows to be another's property, and can stop sulks, crossness and contrariness.

4. He can obey.

5. He can understand simple instructions and hold them in mind sufficiently well to carry them out.

6. He can pick out a few colors and express a preference among them.

7. He will have a vocabulary of from 2,000 to 4,000 words. He will understand more words than he uses.

8. Rote memory is good.

9. He can build or alter simple forms for use in play.

10. He can make a rude drawing and perhaps print a few words.

11. He can tell a simple story, partly of his own.

12. He can act out a simple story, and pursue an imaginative play for quite a period of time.

13. He is in the midst of the "how" and "why" period.

14. He is full of spontaneous feelings toward goodness, which may easily be turned into the channels of kindly, generous service of others.

NOTE.—An excellent fuller outline for the study of a child of this age, just entering school, is given in I, 336-338.

A CHART OF CHILD DEVELOPMENT

MEMORANDA

A CHART OF CHILD DEVELOPMENT

SEVENTH TO NINTH YEARS (From the Sixth to the Ninth Birthday)

PHYSICAL DEVELOPMENT

Period of rapid growth and resultant easy fatigue may begin in 7th year. This varies according to conditions extending over a range of about 16 months, is usually past by 9th year; is followed by a period of retarded growth [I. 322].

Heavier muscles and growing nerves, and muscular activity and coördination increasing.

Brain attains nearly full weight, 8th year.

Weight: at 7 years, average 45 pounds; at 8 years, average 47 pounds; at 9 years, average 49 pounds.

Height: at 7 years, average 45 inches; at 8 years, average 47 inches; at 9 years, average 49 inches [I. 382].

Respiration, 20 to 25.

Pulse, 90 to 100.

Dentition: second dentition proceeding; 4 central incisors, 7th year; 4 lateral incisors, 8th year; 4 first bicuspids, 9th to 10th years [I. 183, 217, 299, 341-343, 369].

MENTAL DEVELOPMENT

Instincts: instinct of **construction** [I. 156, 159] now craves results as well as pleasing activity and shows inventive tendency; **collecting** [I. 43; II. 57, 240] now is for a reason, such as for nature study; **curiosity** now asks more rational questions and uses the results in experiments [II. 94-98].

Emotions: fear lessens, courage increases; ambitions appear, not far-reaching and subject to discouragement after fatigue or failure; control of emotions still slight.

Memory, especially verbal memory, stronger than ever, but for concrete things principally, not abstract principles.

Mental activities: imagination still expressed in day dreaming, but now also in some measure of action and construction; interest in formal but active **games** [I. 99; II. 229, 230, 267, 268], in lively competitive games, in pets, in exploring the neighborhood and in one's own bodily health and vigor; concentration in own actions strong but transitory; mental capacity broadens as school and experience broaden his horizon.

PHYSICAL SUGGESTIONS

[I. 275-280]

Sleep: from 13 to 12 hours [I. 324].

Foods: body-building and muscle-building [I. 240-244].

Free out-door life; protection against fatigue [I. 271-274, 350]; rowing, swimming, calisthenics, etc. [I. 386].

Exercise of larger muscles in work and play, and no attempts at skill before 9; alternate lively action with periods of rest and reading [I. 55-57].

Special care to be taken in formation of right habits of walking, sitting and standing [I. 279, 280]. Look out for slovenly habits of posture [I. 275-277, 280].

MENTAL SUGGESTIONS

[II. 277-290]

For construction, show him how to build a shack or hut, have simple bench-work, for girls encourage doll-dressmaking, knitting, knotting, simple cookery, and for both use the household tasks as exercises [I. 45, 62-65].

For collecting, encourage by furnishing cases, boxes and pressing-frames; also books for postage stamps, postmarks and post-cards; also encourage barter.

For curiosity, especially as to nature, develop weather-maps, bird calendars, adopting a tree, etc. [II. 100-103].

For ambition, start a weekly allowance and small business projects, such as care of hens. [I. 18, 73, 315-321].

For memory-training, give recognitions for memorizing ballad poems and worthwhile verses [II. 82-91, 280-283].

For broadening mental activities, encourage handling, measuring, comparing, copying, and use of pictures, maps, models, etc. Have puzzles and guessing games, reading to self, letter writing, singing by rote, simple drawing and coloring and, perhaps, use of some foreign phrases [II. 38-40, 277-280, 291, 292]. Music practice would begin during this period [II. 284-290].

A CHART OF CHILD DEVELOPMENT

SEVENTH TO NINTH YEARS

SOCIAL DEVELOPMENT

[II. 54-57]

Imitation of adults less prominent, but suggestion of those of own age potent, from 8 on [II. 54, 55].

The child is still individualistic but not so selfish; teasing and bullying frequent, due to crude sense of humor and desire to show off [II. 148, 149].

Individual competition strong, especially in play.

Sensitiveness to ridicule, but not to shame [II. 43].

Beginning of "gang" interest in boys, of "sets" among girls, about 9th year. This now largely imitative, but important [II. 312, 313].

Range of play wider, as the child gets more ideas and roams farther from home. Some peril in this. In general, **period of imitation and rivalry** of playmates.

MORAL DEVELOPMENT

Self-confidence strong, but occasionally shaken by fatigue or failure [II. 139].

Purpose develops through making things.

Persistence grows, and may lead to stubbornness.

Capacity of self-government develops with practice. The child still has little control of feelings, but does sometimes control his acts [I. 350-354].

Disobedience now may be due to self-confidence, stubbornness, or preoccupation in some new enthusiasm.

Hero-worship continues [II. 54].

Friendship strong and influences life and character [II. 466, 467].

Little sense of justice, but beginning of appreciation of others' point of view by being obliged to give up sometimes in play [I. 149, 150].

Fortitude and courage grow out of play-experiences [II. 388, 389].

Little sense of moral responsibility in the abstract, but keen appreciation of actual goodness in friends. No appreciation yet of law or morality; but responds only to personal, definite commands.

Religious feeling, trustful. Prayer, more an expression of childlike dependence than mere selfish desire for self-protection.

SOCIAL SUGGESTIONS

Encourage sturdy, fair competition in play.

Mitigate quarreling by giving each child his own things, by having a treasury of diversions, and by having rest-periods between plays.

Multiply the attractive influences of the home as strength and opportunity tend to draw the child away. Encourage care of his own pets and garden, make much of his own room, and let him bring his playmates home, all for the same end.

Use encouragement and praise rather than ridicule or rivalry, and discourage comparison with brothers and sisters; always correct privately.

MORAL SUGGESTIONS

[II. 213-218, 384-390, 433-437]

Help the unrest of the period by maintaining the child's legitimate self-confidence and protecting him from discouragement and disillusion.

Encourage persistence in worth-while tasks, giving financial and other encouragement; use the competitive spirit in wholesome emulations [II. 373-379].

Use hero-worship by encouraging friendships with worthy chums, by bringing in noble men and women as guests or teachers, by stories from the myths and folklore, and by stories and reading of biography [I. 73-75; II. 270-275].

Continue habits of church or Sunday-school attendance [II. 449-451] and other religious influences [I. 23-25; II. 383].

See moral training now as chiefly preference-training, and influence the heart and feelings to render wise, eager preferences for what is good [II. 392-397].

Study the matter of obedience wholly for the child's betterment, not for the parents' pleasure [II. 172-184, 205-212, 218-221].

WHAT AN AVERAGE CHILD MAY BE ABLE TO DO BY THE END OF THIS PERIOD

NOTE.—The words "he" and "his" wherever used in these lists generally apply to activities appropriate to girls as well as boys, unless otherwise indicated.

The spaces between the items are intended for pencil annotations by mothers who may be testing their own children by these activities.

1. He can maintain a correct posture, sitting, standing or walking.

2. He can fish, build a hut, ride a bicycle, spin tops, jump rope and roller-skate.

3. He has some sort of a collection and is interested in "swapping" with chums.

4. He has an allowance and some little business project.

5. He has his regular share of the household tasks which he fulfils faithfully.

6. He reads fairy tales and myths with pleasure.

7. He has well begun music lessons and practice (if at all musical).

8. He knows how to use a dictionary.

9. He has a scrapbook of his own.

10. He has a chum or a group with whom he plays regularly.

11. He takes good care of a pet animal.

12. He goes to church regularly once a Sunday.

A CHART OF CHILD DEVELOPMENT

MEMORANDA

Shirley Ann can ride a bicycle, ice skates at 6 yrs. Fairly good on skates at 6 1/2 yrs. Needs rink rope. Loves short stories of large print and lots of pictures. Has a chum which she provides and treats accordingly. Likes things [illegible] with the fingers, can wash & dry the dishes, sweep the house, when told can find the things [illegible] & put them away. Likes the table set & cleared well. Loves animals & children.

Hates [illegible] dancing [illegible] piano [illegible]

Likes to construct a house & furniture & can work for hours at the game.

Likes [illegible] movies or a short trip. Should be taught to [illegible] summer & fall [illegible] 2 tablespoons here, one for her dinner.

A CHART OF CHILD DEVELOPMENT

TENTH TO TWELFTH YEARS FOR GIRLS (Ninth to Twelfth Birthday)
TENTH TO THIRTEENTH YEARS FOR BOYS [Ninth to Thirteenth Birthday]

PHYSICAL DEVELOPMENT

Acceleration begins, first in height, then in weight.

Physical activity at its highest.

Liability to fatigue much less.

Increase in muscular control over hands and fingers, leading to skill in drawing, carving, etc.

Development of special senses; eye-and-ear period; time of close observation of details in life and nature.

Intensity of life culminates [in girls, 11-12; in boys, 12-13].

Time of storing up energy.

Just before puberty is a physical lull.

Weight: from 64 to 80 pounds.

Height: from 51 to 55 inches.

Respiration, as in adults [I. 312, 313].

Pulse, 80 to 90.

Dentition: Several teeth may already be diseased.

MENTAL DEVELOPMENT

Instincts: further development along lines of last period (which see); **curiosity** deeper and wider and more definite; **construction** more patient and skilful; **play** more formal and better organized.

Emotions: less primitive and under better control. Greater courage and self-confidence.

Memory for the concrete splendid, especially for facts and words.

Mental activities: **imagination** active but less fantastic; interest in more complicated and skilful group **games**, in baseball or basket ball, in woodland life and woodcraft, in pets, in adventure, in friends; love of **reading** likely to become a passion; discrimination as well as observation keen and critical; **sex-differences** in interests gradually appear and girls become mentally a little maturer than boys of same age.

PHYSICAL SUGGESTIONS

Sleep: 10 or 11 hours [I. 330].

Diet: Plain and varied [I. 240-244].

Free outdoor life; encourage many active games [I. 350-358, 386]; camping, tramping, skating and woodcraft [II. 484]; encourage interest in nature, science, home-made aquaria, gardens, collections, shelters for pets, etc. [II. 100-103].

Begin training in skill with tools [I. 29-38], drawing, musical instrument.

MENTAL SUGGESTIONS

Emphasize accuracy and drill.

Require some original composition for language-training. Encourage language-acquisition. Develop further memorizing of choice selections.

Stimulate collections, barter, thrift and early business schemes, such as hens, paper route, etc., care of pets, emphasizing persistence, skill and coöperation [II. 262-265].

Take to see mechanical and engineering plants and projects, shipyards, shops, stores, etc.

Encourage printing, embroidering, keeping a journal.

Give access to inspiring biography and wholesome fiction suited to age: Indian and adventure stories [I. 73-75; II. 103-108, 342].

Recognize the sex-differences of interest when they appear.

Supervise any required home study [II. 40, 369, 370].

A CHART OF CHILD DEVELOPMENT

TENTH TO TWELFTH YEARS FOR GIRLS
TENTH TO THIRTEENTH YEARS FOR BOYS

SOCIAL DEVELOPMENT

Elementary gangs appear, among boys for physical activities and games, among girls rather more for domestic play and work.

Leadership and following develop in these groups, some children showing one tendency, some the other.

Influence of these chums seems to distance that of adults.

These friendships self-assertive, competitive and established partly at least for selfish pleasures and profits [I. 365, 366].

MORAL DEVELOPMENT

Moral ideas those of his own years (especially in the 12th year). Heroes now those of his own age.

Actions self-regarding.

Some capacity for recognition of rights of others, developed through play.

Regard for law and rule now, more than for personal command.

Child enjoys self-government plans.

Susceptibility to good and evil influences of other children. Adventuresome spirit sometimes leads into violation of rule and law.

At puberty, beginning of personal religious feeling, 12th to 13th years.

Still the age of faith, though he wants reasonable explanations of statements made.

SOCIAL SUGGESTIONS

Organize gangs in and around the home [II. 191, 192].

Encourage social responsibility to the home by more responsible household tasks and by handicraft for home uses [II. 373-379, 479, 480].

Lead in family camps, outings and evening amusements [II. 314].

Have afternoon parties [II. 268, 269].

Expect boys and girls gradually to separate in play, and plan accordingly.

Increase the allowance, as an expression of confidence, and give opportunities for earning more money as desires increase [I. 18, 73, 315-321].

Work toward more wholesome social life in neighborhood and church [II. 424-427].

MORAL SUGGESTIONS

[II. 390-397]

Help in formation of high ideals through suggestions of books and stories for reading which will bring out qualities desired to inculcate [II. 463-471, 485 ff.].

Know child's companions and their home environment. Do not encourage friendships with other children which you are unwilling shall be lasting [II. 191, 192].

Give personal interest to the child's projects, no matter how visionary.

Emphasize reasonableness in parental government and give reasons for decisions when child seems to think them unfair [II. 218-227].

Share the child's adventures as far as possible and discuss them seriously.

Subject the child to influences giving wholesome religious training according to the best customs of one's creed and church [II. 407-424].

Encourage original petitions in prayer and interest in the Bible [II. 437-440, 444-449].

Remember that the profitable employment of time is the biggest moral prescription throughout this period.

WHAT AN AVERAGE CHILD MAY BE ABLE TO DO BY THE END OF THIS PERIOD.

(Taken largely from data by the late NAOMI NORSWORTHY)

NOTE.—The words "he" and "his" wherever used in these lists generally apply to activities appropriate to girls as well as boys, unless otherwise indicated.
The spaces between the items are intended for pencil annotations by mothers who may be testing their own children by these activities.

1. He should feel great zest in life and its activities.

2. He should notice more in nature and human beings than ever before.

3. He should tire less easily than previously.

4. He should enjoy collecting, wigwam or gypsy or housekeeping play, dancing (girls), fighting (boys), and getting together.

5. He should enjoy games now more than free play.

6. His friendships should be ready, eager, possibly temporary, yet with more of rivalry, honor, and kindliness than before.

7. He should be reading more interestedly and widely than ever, especially adventure-stories and hero-tales.

8. He is likely to show more reticence in the presence of adults, partly because his feelings are more sensitive, partly because he realizes that his interests are not the same as theirs and partly because he may be sometimes at cross-purposes with them.

9. The interests and activities of boys and girls will separate toward the end of the period.

10. He should be capable of originating a project of his own and giving it considerable patience and persistence, and some skill.

11. If rightly trained, he will still be saying his prayers, even though they be the forms he learned in early childhood, he will think of God with continued trust, and his will for goodness will be real even if not always effectual.

A CHART OF CHILD DEVELOPMENT

MEMORANDA

A CHART OF CHILD DEVELOPMENT

THIRTEENTH TO FIFTEENTH YEARS FOR GIRLS (Twelfth to Fifteenth Birthday)

FOURTEENTH TO SEVENTEENTH YEARS FOR BOYS (Thirteenth to Seventeenth Birthday)

PHYSICAL DEVELOPMENT

Physical changes of puberty begin: 12th to 15th years in girls—though delay to 16 not cause for anxiety, if conditions are normal. 13th to 17th years in boys. These changes earlier, briefer and sharper with girls [I. 362-367].

Variations in height and weight, according to family traits, etc. [I. 148, 382].

Rapid growth of heart causes physical discord. Blood pressure throughout the body fluctuating. Child liable to colds. Blood pressure causes flushing and blushing. Hot flushes and heart irregularities sometimes mistaken for disease. (Not cause for anxiety, but for care) [I. 278, 279].

Nervous system peculiarly sensitive. Children placid and phlegmatic before become impetuous and nervous. Hysteria not uncommon. (Not cause for anxiety, but for care) [I. 279].

Less susceptibility to childhood diseases, and that to those of adults not yet begun. Disease-resistance power strong [I. 324-326].

Increase in lung and chest capacity, muscular development and muscular strength.

Growth of larynx causes irregularities in use and control of voice.

Awkwardness, caused by rapid growth, especially in boys; growth in boys is to lines and angles; in girls to curves [II. 67].

Imitation of walk, attitudes and gestures of companions common.

In general, **period of physical unrest and instability.**

PHYSICAL SUGGESTIONS

[I. 240-251, 327-330, 361-380]

Guard against physical overstrain, especially with girls [I. 327-330].

Emphasize deep breathing, and exercise in open air [I. 335, 336].

Sleep at least 10 hours of the 24.

Encourage games involving physical activity to offset sedentary school life and to counteract nerve-strain [I. 385-390].

Inherited physical weaknesses apt to develop during this period. If child has such inheritance, extra care should be taken [I. 344-347; 394, 395].

Give definite sex-instruction, that child may understand changes incident to period, and not make mistakes [I. 4-14, 361-380]. Give special attention to habits of posture, walking [I. 279, 280]. Guard against round shoulders, slouching, etc. (sometimes round shoulders, strength in muscles) [I. 274-282].

Diet of child should receive special attention [I. 240-251].

Develop automatic skill in two or three special directions [II. 163, 375].

MENTAL DEVELOPMENT

Instincts: the sex instinct now actively appears.

Emotions: more intense and varied than ever; joy likely to be followed by depression and sense of failure; new enthusiasms deserted for others; brooding over self common; in general, great self-consciousness common.

Memory: can learn lessons better than ever, not so much verbally as the gist; real selective memory develops; memory for details may not be so good, because big interests shut them out.

Mental activities: imagination busy with personal plans; **new interests** in art, music, hobbies and experiments, nature, the theatre and other entertainments and good times; constant **excitement** and desire to spend money common; frequent unrest in school; passion for **reading** is common—exciting adventures; girls read novels earlier than boys, boys skip about much in mechanics, popular science and invention, both read some biography; **concentration** may be intense as long as interest lasts; general period of **mental unrest and contradiction.**

MENTAL SUGGESTIONS

[II. 196-207]

Avoid too great mental stimuli. Life is straining to the utmost.

Interest in various employments—arts and crafts, music and art, poetry and dramatics, local industries and civics, etc., to stimulate sentiments and broaden interests [II. 275-290, 297-299].

Encourage self-expression through composition, handicraft, music, art-work, personal apparel. Develop any special talent or ability [II. 284-290].

Coöperate with school work and interests [I. 98; II. 25, 26, 361-370].

Assign interesting and responsible home tasks [II. 373-376].

Train for financial responsibility by allowing opportunities for its exercise; let child plan family budget, consult in regard to home interests, extend allowance, if possible, making it more inclusive at the same time [II. 315, 316, 429].

Interest youth in collections of scientific nature —geological, botanical, etc. [I. 43; II. 484].

Do not too closely supervise child's reading, but make sure that good books are accessible, and that none others are so. Encourage individuality in selection. Give the best in the different fields of literature [I. 73-75; II. 283, 342].

A CHART OF CHILD DEVELOPMENT

THIRTEENTH TO FIFTEENTH YEARS FOR GIRLS (Inclusive)
FOURTEENTH TO SEVENTEENTH YEARS FOR BOYS (Inclusive)

SOCIAL DEVELOPMENT

The youth is sensitive to what people think of him, which accounts for much reserve and apparent recklessness [II. 69].

Restlessness leading sometimes to desire to leave home, due to development of larger viewpoint with sense of restriction of activity.

Period of sex-opposition 11th to 13th years, followed by sex-attraction 15th to 16th years [I. 364, 365].

Social symptoms related to sex; vanity, showing off, coquetry, affectations, chivalry and ambition, imitativeness of mannerisms or manners of adult favorites [II. 322, 460, 461].

Heyday of "gangs" and "sets," which flourish and influence moral and social life [II. 321-323, 481-484].

Play: complicated group and team games among boys; girls develop interest in boys' games as onlookers; make enthusiastic "fans."

Strong coöperation and loyalty in play, with capacity of self-sacrifice. Girls' pleasures tend to be more subjective and less coöperative than those of boys [I. 356; II. 329].

MORAL DEVELOPMENT

[I. 362-374; II. 67-74]

The youth is unstable morally, yet he is now forming principles; he may be either developing a will of his own or becoming more dependent on the will and habits of others.

The period in many ways is one of crisis; the largest number of religious committals, also of escapades, occur now (with boys, the most at 16); aversion to church and Sunday-school common, while yet sensitive to religious impressions [I. 366].

Restlessness, sense of restriction, desire for a larger viewpoint now cause some boys to leave school or work or home.

The youth is on the quest for moral adjustment, nothing is any longer taken for granted, and religion, if consciously faced at all, is deeply felt to be a personal matter [II. 69, 70].

Response to generous sentiments and activities now hearty, even if not always expressed verbally. Great admiration now felt for persons of fine and attractive personal qualities [II. 201].

SOCIAL SUGGESTIONS

[II. 294-296, 313-315]

Encourage interest in well-conducted school athletics among boys; encourage tennis, basketball and active games among girls [I. 1, 2, 358; II. 198, 313-315].

Assist social organizations in Church and community to embrace and purify the gang spirit.

Give evening home parties [II. 268, 269, 293].

Cultivate social ease and grace. If not acquired now, child apt to be awkward and over self-conscious during the whole of the adolescent period [II. 318-320, 457-461].

Offer afternoon or (weekly only) evening theater, picture show, etc. [II. 269, 294-296, 324].

Encourage bringing of friends, boys and girls, into home as much as possible.

Encourage hunting, fishing and all sorts of out-of-door primitive occupations. Boy Scouts and Camp-Fire Girls meet this appeal and should be encouraged [II. 329-336; 481-484].

Work with other parents for sane social life among young [II. 27, 28, 368, 369, 397-402].

Wisely plan first absences from home, such as at camp, visiting, summer work, etc.; be reconciled to temporary alienation [I. 271, 314].

MORAL SUGGESTIONS

[II. 71-74, 196-205]

Govern by suggestion, inspiration, consequences, not by force [II. 196-205].

Hold heart of the child loyal to home; give share in home responsibility and duty and home privilege [II. 201, 202].

Form high ideals in chivalry and of honor, and especially pure sex-relations [I. 361-380].

Prepare for future parenthood as well as splendid manhood and womanhood by giving high ideals of purity and chastity for boys as well as girls [II. 27, 28].

Teach reverence, and religious truth; foundations laid deep in character stand, and make for spiritual strength [I. 23-25; II. 407-416, 439-443].

Impress value of mental and moral aggressiveness; "non-resistance under all circumstances is unmanly, craven and cowardly" [II. 388, 389].

Exemplify in your own lives the qualities which you are trying to instil.

WHAT AN AVERAGE YOUTH MAY BE ABLE TO DO BY THE END OF THIS PERIOD

(Taken largely from data furnished by LANSING F. SMITH)

1. He (or she, in every case below) cleans his teeth every morning and night, drinks six glasses of water every day, and goes to bed regularly in school time by ten o'clock.

2. He (or she) can easily take a five-mile hike.

3. He knows how to row, swim and dive.

4. He plays some outdoor game at least twice a week.

5. He has begun a library of his own.

6. He pays all his personal expenses out of his weekly allowance, has a checking account at the bank, keeps personal accounts and has some regular way of making money.

7. He is thoroughly informed as to the origin of life, and has clean personal habits.

8. He has some one nature interest, such as indicated by belonging to the Boy Scouts or Woodcraft League or Camp Fire Girls, and has at least one definite achievement in this field, such as being able to identify ten birds, trees or stars.

9. He has the habit of memorizing favorite passages, and keeps a scrapbook of such selections.

10. He has a working knowledge, at least equal to his knowledge of a school textbook in history or literature, of the English Bible.

11. He takes a regular, fair and responsible part in the home duties.

12. He is developing the habit of good-natured, unselfish service for others in some definite way.

MEMORANDA

A CHART OF CHILD DEVELOPMENT

SIXTEENTH TO SEVENTEENTH YEARS FOR GIRLS (Fifteenth to Seventeenth Birthday)
EIGHTEENTH TO NINETEENTH YEARS FOR BOYS (Seventeenth to Nineteenth Birthday)

PHYSICAL DEVELOPMENT

Physical growth continues — girl usually has height of maturity by sixteen, boy at about eighteen. Girl assumes figure of womanhood, boy tends to height.

Seventeen is strong year for boys, while eighteen is peculiarly susceptible to dreaming and weakness.

Abnormal and capricious appetites likely to lead to insufficient nourishment at a time when Nature is putting the greatest strain and demanding the greatest effort from youth.

Finer correlation of muscles. Real skill of hands possible.

Sex differentiation and maturity completing. Stress of sex-feeling great.

Harmony and balance restored in heart and arteries, relieving blood pressure during last of period.

Poise of body attained and manner of walking, standing, etc., apt to be fixed for adult life. Awkwardness lessens.

Nerve-control increases during last of period.

In general, sense of joy and health and well-being.

MENTAL DEVELOPMENT

Emotions: not so wildly fluctuating; if the youth is inclined to self-analysis he may be melancholy at times, but there is a tendency now toward balance; religious doubts (perhaps at about 18) may cause mental distress; in general, the sense of mental vigor and personal power [II. 70].

Memory grows more discriminating and useful.

Mental activities: imagination now takes the form of concrete plans for the future, with deep interest in **vocation**; the sense- and motor-powers are exercised in handiwork or other plans that relate to this; there may be pleasure in reasoning, in the way of debate, literary study, pure mathematics or science; both sexes usually like love-stories, boys especially may form habit of reading newspapers; there is the liveliest devotion to personal adornment and recreation; in general, a period of growing mental poise and stability [I. 372; II. 341-343].

PHYSICAL SUGGESTIONS

Sleep: 9 hours.

Emphasize importance of cold baths, value of swimming, etc. [I. 368, 369].

Special care as to diet; struggle to establish regularity and rhythm in life of youth through influence of home [I. 244-266, 366, 367, 370].

Relieve sex-strain by diversion of interest to athletics [I. 274-282]; camping, excursions, etc.

Exercise for hardihood and endurance toward the end of period; caution along this line with girls is necessary. Skilled gymnastic leadership necessary [I. 357, 368].

Play, as in last period, with increasing emphasis upon training and endurance among boys.

MENTAL SUGGESTIONS

[II. 344-359]

Coöperate with this interest in vocation, for it will give purpose to the work in school, tend to regulate the sex-activities, and focus toward the domestic life [II. 26, 27, 344-354].

Endeavor to fit school and work to the individual and to bring the youth into contact with experiences and tasks that will help his vocational choice; now also is the time to get technical efficiency in music or art or craft or any talent [II. 354-359].

Demand more thoroughness and persistence in tasks and fuller financial responsibility [II. 315-322].

Try to establish the reading habit, and call to attention books of human achievement and those that enhance life [II. 476-479].

A CHART OF CHILD DEVELOPMENT

SIXTEENTH TO SEVENTEENTH YEARS FOR GIRLS
EIGHTEENTH TO NINETEENTH YEARS FOR BOYS

SOCIAL DEVELOPMENT

Gangs and sets develop into athletic organizations, clubs, etc.

First entrances into society, school and social dances, etc.

First going away from home (college at about 18, work, etc.) [II. 354-359].

Efforts to copy adult ideals, deeper rather than surface qualities.

Revolt from parents not uncommon.

Strong loyalty in games and team-work in football, rowing, and sports appeal to the boy, while girls make enthusiastic and efficient "fans."

"Pairing off" tendency toward the end of the period.

MORAL DEVELOPMENT

Principles now pretty well shaped and become governing of conduct; a personal code is forming and conscience is keen and idealism alert, in spite of apparent defiance and unconventionality.

Criticism of creeds and conduct may be coupled with a genuine search for truth and reality [II. 67-70].

Alternations of feeling, religiously, are still common.

Warm desire to be of service to others.

With those who have made a religious committal, loyalty to the church is strong, especially if the youth is recognized and given something to do.

SOCIAL SUGGESTIONS

Try to chaperon cliques, fraternities, etc.

Continue societies organized by adults.

Coöperate with other parents in restraining social customs.

Bring boys and girls together frequently in homes [I. 80-83].

Allow occasional evening parties and theater.

Bring adult guests of fine manners and morals to the home.

Await return of child from misunderstanding of parents' attitudes, by patience, consistency and good cheer [I. 103-107].

MORAL SUGGESTIONS

[II. 420-426].

Continue as in the previous period.

Present simple, interesting, and both individual and coöperative opportunities of service for others, as the concrete expression of religion [II. 436].

Watch and provide for a special season of moral crisis by unusually rich positive influences, especially of personal sort [I. 366].

Encourage patriotism.

Recognize and take advantage of this as an era of construction and of reconstruction, a return to life-forming principles, a time to rebuild home loyalty, devotion to life-work, consecration to humanity [II. 420-426].

WHAT AN AVERAGE YOUTH MAY BE ABLE TO DO BY THE END OF THIS PERIOD

(Taken partly from data furnished by LANSING F. SMITH)

1. He (or she, in every case) so conducts his personal physical life as to keep free from colds all winter.

2. He takes regular gymnasium work, or belongs to an athletic team, winters.

3. He carries on a similar health-program, by work or camping, in summer.

4. He has established the reading habit, reads the newspaper or a good magazine regularly and with some sort of system, and takes books weekly from the public library.

5. He takes care of his personal expenses, has a modest bank account, works by a budget and has a regular earned income.

6. He continues to have clean personal habits and is chaste in his relations with the other sex.

7. He has developed amateur proficiency in some art, such as piano-playing, guitar-playing, singing, photographing, short-story writing, contributing to the school paper.

8. He still keeps up the habit of memorizing, collecting and classifying what he likes to read or remember.

9. He has some regular partnership arrangement with father or mother, financial, industrial and coöperative of interest and activity.

10. Responsibility is now the character of his service for others. He may be a teacher or assistant in Sunday school, the Scouts or some community movement, or he may take part in a play or pageant or other entertainment for benevolence, and he gives regularly to the causes he believes in.

A CHART OF CHILD DEVELOPMENT

MEMORANDA

A CHART OF CHILD DEVELOPMENT

FURTHER RECORD AND REMARKS

THE STUDY OF CHILDREN

Some Suggestions in Paidology

BY

NORA ARCHIBALD SMITH

"AND in the interest of the children I have still another request to make—that you would record in writing the most important facts about each separate child. It seems to me most necessary for the comprehension and for the true treatment of child nature, that such observations should be made public from time to time, in order that children may become better and better understood in their manifestations, and may be more rightly treated; and that true care and observation of unsophisticated childhood may ever increase." On January 30, 1841, Froebel wrote the letter from which is taken the above extract, and his scheme of infant education as developed in the kindergarten is evidence of his own preëminent care and observation of unsophisticated childhood. The opening years of the twentieth century saw at least a quarter of a million children attending kindergartens in the United States of America alone. There is now not a country on the globe where the kindergarten is unknown; and that a system of infant education based upon the study of children should have traveled so rapidly around the world in the fifty years since the death of its founder is proof sufficient of how true was the insight that developed it.

The Beginnings of Scientific Child-Study

Although Froebel is frequently called the "father of child study," and although his writings are conceded to be among the most valuable of its documents, yet his work so far antedates others in the same field that in his day the new science was not even named or considered a special branch of investigation. The work of Prof. Wilhelm T. Preyer (1841-97), in Germany, gave the special impetus to the modern movement in this line and the publication of his wonderful book, "The Mind of the Child" (Die Seele des Kindes) (1882), may be said to have marked the first milestone in its progress. Scientific observation of children began in this country in 1880, and so much is it the instinct of our people, as has been said, "to take a fresh and independent look at primal facts of human nature and at growth itself" that we may safely say that more has already been accomplished here than in any other land.

Modern Modes of Training Are Lacking in Vital Points

Courses in child-study are now given either in the regular work or in the summer sessions of most American colleges and universities. Specialists are preparing themselves in this country and in Europe, hoping to become professors of paidology, another name for the new science. The programme of no educational meeting is complete without a paper or a series of papers on the subject; one magazine is wholly devoted to its interests, special departments being conducted in other periodicals; and the number of books dealing with this recently-discovered branch of knowledge is already very considerable.

And what does this mean—this widespread interest in the study of the little people, this outpouring of literature on the subject, this eager desire to observe and record every manifestation of child-nature, no matter how minute or apparently unimportant? It means, in the first place, that thoughtful people have come to the conclusion that the modes of training and preparing for life, the methods of education which are in ordinary use in this and other countries, are lacking in some vital points; that the failures which are made are frequently due to inherent defects in the systems; that these systems are not based upon a sufficiently intimate knowledge of child-nature, and that of all living beings the child is least known and has been least studied. To realize that a thing is imperfect is the preliminary step toward making it right; and as this is the children's century and America is preëminently the children's country, we can scarcely be surprised that so encouraging a beginning has been made in the task of redressing the wrongs of our coming men and women.

Paidology—The Attempt to Gain Systematic Knowledge of the Individual Child

It is customary to speak of paidology, "the great sociological and humanitarian study," as Dr. G. Stanley Hall calls it, as a new science. This paper, indeed, has so alluded to it, but this

after all is a mistake, for Adam and Eve must have taken it up, or at least sketched a preface for it, when they began the education of little Cain and Abel. That the methods of training which they based upon their observations did not succeed with all their offspring, is true enough; but the same thing might be said of many modern parents with far greater advantages than those of the Edenites. Even ignorant, inexperienced Eve, all unversed as she was in the mysterious ways of children, must often have remarked the striking dissimilarity in the temper and characteristics of her first two sons; and Adam must have had frequent cause to be grateful that, in his case at least, the sorely-tried mother could not bewail, in times of nursery outbreak, the unfortunate disposition which her poor little Cain inherited from his father's people.

Hitherto Such Work Has Been Largely Empirical

In just as different guise as Cain and Abel appeared to their astonished parents when the world was young, do modern children reveal themselves to-day, and the problems of training in family and school resolve themselves into: first, an earnest effort to become acquainted with the personality of the young human being; and second, to draw forth all its powers and by wise guidance to fit it for life. Every parent, every teacher, is to some degree a paidologist, but the work of both classes of persons has up to late years been more or less empirical. Both the intelligent mother and the enthusiastic teacher, thoroughly devoted to their respective charges, have in all times had a pretty thorough knowledge of them, but the knowledge was fragmentary; it came in bits, as it were, and could seldom be massed or viewed as a whole. It was unconscious knowledge, in a way, and as such was hardly in a state to be acted upon—a knowledge of facts, not reasons; of results, not causes. The purpose of the present movement is an intelligent effort on the part of persons entrusted with the responsibility of children to gain a thorough, systematic knowledge of them from the beginning of their days, and so to record the observations made that they may form a guide for the training and education not only of the particular child in question, but for other little ones whom no one has time or interest to study. To prove that this is possible, one of the most noted American observers of children, Milicent Washburn Shinn, has lately said that in many things all babies are alike, since babyhood is mainly taken up with the development of the large, general social powers, individual differences being less important than in later childhood.

Thus if, as Froebel advised, the most important items about each separate child are recorded in writing and made public from time to time, a foundation is laid for that body of carefully-observed facts which Dr. Joseph Le Conte declared to be of transcendent importance for the new science. Many mothers already keep notebooks in regard to their children, and many have done so in the past; but as the work has commonly been felt to be of personal interest, rather than of possible scientific value, the observations were seldom made regularly or recorded systematically, and unless system and order are present, no observations can be relied upon in any line of research.

The Contribution of Woman to the New Science Will Consist of the Collection of Facts

Prof. James Sully doubts whether the mother's mind can be severe enough in its insistence on plain, ungarnished fact, or sufficiently trained in minute and accurate observation and in sober, methodical interpretation for such a task. "The very excellences of maternity," he says, "seem, in a measure, to be an obstacle to a rigorous scientific scrutiny of babyhood." But the contributions of women to the new science will generally have nothing to do with "interpretation"; it will rather be the careful, painstaking amassing of facts in regard to the child's growth and physical, mental and moral development. Cannot an intelligent woman be trusted to note such facts as well as the advent of a new planet when it swims into our ken, or the characteristics which determine a new species of plants? And women have become eminent astronomers and botanists ere now. "Love the child," say the greatest observers, "and he will reveal himself to you," and if success depends chiefly upon love, the other gifts will be added unto it.

"And what shall we observe?" say the women who are interested in the subject and whose greatest delight in life is to watch the development of their children. In the first place, in order to gain an idea of the charms of the work and of the fascinating way in which it may be treated, it would be well to read Miss Shinn's "The Biography of a Baby" (1901), which records her observations on her niece during the first year of the baby's life.

A Synopsis of "The Biography of a Baby"

Beginning by noting the first infantile movements, such as stretching, yawning, swallowing,

crying, etc., which merely belong to the class called reflex, and mostly come ready-made at the baby's birth, the first definitely conscious impressions are observed when hearing becomes a realized fact and the child's world of vision emerges from confused "patches of light and dark, with bits of glitter and motion," to the actual seeing of things about it. The development of taste and touch is minutely noted, likewise the development of mental qualities, such as memory, dawning affection, curiosity, voluntary locomotion, and self-consciousness.

Attaining the age of nine months, the baby has likes and dislikes; she begins to enjoy life and takes keen interest in all about her; outdoors, her happiness is even greater than the month before, and her cries of rapture, as she looks up, down, and around, and realizes her own activity in the midst of all the waving and shiny and blooming things, are remarkable, uttered as they are from the very deeps of her little soul, with that impassioned straining of the central muscles by which a baby throws such abandon of longing or ecstasy into its voice.

During the next three months great progress is noted in the practicing of the powers the infant has just acquired, and so the story of the swift, beautiful year is ended, and one wee, soft helpless baby has become this darling thing beginning to toddle, beginning to talk, full of a wide-awake intelligence and rejoicing in her mind and body. The observations, as will be seen, cover the development of sensation and consciousness, of emotion and intelligence, of sight and hearing and speech, of voluntary motion and much besides; but few women are sufficiently trained in psychology to make such extensive inquiries.

A Mother May Gain Fuller Understanding of Her Child

The possible value to science of a great mass of careful observations of children is evident enough when we consider that very little is known, for instance, concerning the unfolding of the child's faculties, while only a few exact notes are on record of the development of language, and still less material is at hand concerning the growth of the moral perceptions, of conscience and the feelings, and of the sense of personality. If the mother can trust herself to be careful, systematic, impartial, and absolutely veracious she can collect material which will be of great value to the scientist, but even if it never reach the eye of this great personage, or be a twice-told tale when it does reach him, the labor meantime will have been of inestimable value to herself. It will have given her an understanding of the inner life of her child, a knowledge of his temperament and peculiar characteristics, an insight into his possibilities for good and evil, which many mothers fail to gain in the course of their whole experience; for it is a mistake to suppose that we always understand by intuition even those who are of our own flesh and blood. More than this, she will have developed herself mentally and morally in making these long-continued observations and will have become by so much a better guide for her child in all methods of training and education. Nor can her influence end here, for what she knows of one small human creature she can apply, if such work comes within her sphere of influence, to the deserted little ones, the foundlings and orphans, the defective and abnormal children with whom the institutions of the State are crowded.

The Best Method to Be Followed by the Mother—Spontaneity in the Subject Is Absolutely Essential

From the objections to child-study which are sometimes advanced one would suppose that it was necessary to impale a child on a pin like a butterfly, in order to observe him properly, or to fumble about his works with a sharp instrument, as a watchmaker does with a timepiece that is out of order. No view of the matter could be more mistaken; for the moment the subject becomes conscious that he is being observed, that moment the observations become valueless. He must be absolutely free and unconstrained, his actions and the movements of his mind spontaneous; else the notes we make of his behavior will be useless. If he has even the glimmering of an idea that he is being watched he naturally becomes either shy and secretive, or boastful, self-assertive, and anxious to impress us with his knowledge and accomplishments. This is true of the older child, conscious of his own personality—not of the infant, of course; but in either case all that is required is a more or less steady oversight during certain periods of the day and the direction of attention along certain lines. A child—any child—is so interesting a creature in himself that he is commonly the centre of attraction wherever he may be; and we shall do him far less harm by watching what he does of his own volition than by teaching him tricks which he may show off, on occasion, like a performing poodle. The mother who invites a playfellow to spend an hour with her boy and then sits quietly at the window, attentive to all that goes on, yet apparently

absorbed in her work, may thus gain an insight into his temper, a glimpse of his dominant characteristics and of the faults that are likely to beset him, which will illumine, as by a flashlight, that vague sketch of his personality which has hitherto hung but half-seen on the walls of her mind. A record of many such hours spent in oversight of work and play will reveal to the parents the undeveloped character as it really is, and will suggest with some degree of certainty the pruning which will be necessary here, the cultivation there, and perhaps even the line of life for which the child will be best fitted in the future.

Observations upon Physical Condition—Weight, Height, Sight, Hearing, Nervous Energy

Leaving generalities and turning to particulars, there are many observations upon the little one's physical condition which the parent may make with great advantage. As there is a certain weight and height; a girth of chest, hips, and thigh; a breadth of shoulders, etc., which belong by right to every child of a given age and nationality, so any great deviation from this standard may be noted by measurement and the cause for the defect ascertained and removed if possible. The sight and hearing are also to be tested with regularity, for often these are, or become, seriously impaired while the parent is in complete ignorance of the fact. Tragic results may follow upon this ignorance; witness a child of whom the writer knew, who was long punished for wilful disobedience, finally pronounced feeble-minded and placed in a retreat, only to have it discovered just before his death that his sight and hearing were so defective that he had never in all his brief and wretched life seen any object in the world as it really is, or clearly heard any command or suggestion given to him. His brain was found to be quite normal, and a surgical operation would have removed all his defects, had his parents ever taken the trouble to find them out.

The Necessity of Intelligent and Careful Management

Special care must of course be given to the child at the period when his growth is most rapid and when he is most vulnerable to disease, and here repeated and careful observations as to sleep and appetite are necessary. "The modern child," as a wise mother lately said, "growing up amid the excitements of city life, needs to have extraordinary intelligence and care manifested in his management if he is to possess that physical balance and nervous poise essential to normal intellectual development. Common sense—uneducated common sense—is not infallibly quick to interpret the signs of brain fag and nerve strain displayed in a child's postures and expressions. Therefore the careful mother will study her children, watching for the bewildered frown, the nervous twitch of the face muscles, the peevishness, which should warn her that life is getting to be too much for them. Nor will a careful mother fail to appreciate the strain upon the body involved in the change from home life to school life. She will realize that more nourishing diet, longer periods of rest and exercise, will be needed to make up for the fresh demand upon nervous energy."

The Fatigue Sometimes Incident upon School Studies

Constant oversight, too, is requisite lest the child be forced by school competition or his parents' exactions to attempt more than he is really able to perform. It must be recognized that fatigue varies with the condition of the mind and body. Thus one tires sooner when the work is distasteful or when the organs are unhealthy or when the body is poorly nourished; also, the body is wearied more quickly when the mind is tired and the mind more quickly when the body is fatigued. The child tires more easily at some seasons than at others. The condition of the atmosphere, the weather and the time of day—all these affect the normal power of endurance. Also, the rapidly growing human creature fatigues readily. What is learned is soon lost when a child is in this condition, the mind's forces being easily dissipated under such circumstances. The work done to-day is done on to-morrow's credit and the system is wholly at a loss to protect itself against disease and accident. Continual overpressure in childhood undoubtedly means weakened possibilities in adult life.

The Unfortunate Little Radish

The working of "sums," when long continued and a source of anxiety to the pupil whose promotion is perhaps in question, has often brought on chorea, and worry over "practicing" and the gentle art of music in general has been known to produce the same effect. It is clear enough that no parent would see a nervous disease fasten upon his child if he could avert it, and yet in many cases he fails to do so because for one reason or another he has never observed him sufficiently to know his real condition. Do you remember in Charles Kingsley's "Water Babies"

the unfortunate little radish on the Isle of the Tomtoddies, whose parents constantly beat it for sullenness and obstinacy and wilful stupidity, and never knew that the reason why it could not learn or hardly even speak was that there was a great worm inside it eating out all its brains?

How the Parent May Aid the Teacher—Example of an Illinois School

If observing the child and recording the observations are begun as soon after birth as possible, the parent will have much of value to communicate to the teacher when school life begins. In a certain school in Illinois a few years ago, a regular course in child-study was instituted through the medium of the family. The parents were asked in detail by the teachers when the little ones were brought to them about the general physical condition of the children, when they began to walk and to talk, what illnesses they had undergone, to what weaknesses or physical defects they were subject, whether they slept and ate well, took outdoor exercises, etc. As to their general knowledge and mental tendencies, it was inquired whether they had traveled at all, whether they were inquisitive, whether they were familiar with any language besides English, whether they had memorized any songs or poems, what were their dispositions and affections, their favorite games and stories, their interest in animals, their environment and experiences, their ability to get on with their playmates, etc., etc.

The taxpayer who prides himself upon his hard common sense will undoubtedly object, as he reads the foregoing paragraphs, that such an examination into each child's physical, mental, and moral condition would consume the entire first week of the school session. Very possibly it would, it may be answered, but the question to be considered is rather how many weeks it would save in the end. The teacher who knows nothing about the pupil entrusted to her care save his name and age is like a traveler set down in an unknown country without map, guide or compass and condemned to stumble along, forever returning upon his own steps until by chance he hits upon a main-traveled road, and journeys somewhere, if not indeed to the wished-for goal. All would applaud the traveler's wisdom if he exhausted every effort to find a guide before entering upon unknown regions, and the teacher's case is precisely similar. The Illinois teachers to whom reference has been made found the efficiency of their work greatly increased by their knowledge of their pupils, and the parents, discovering in many cases that they were unable to give satisfactory answers to the questions asked of them, were incited to fresh observation of their offspring. The following blank was finally filled out by the teacher in regard to each pupil, and one may see that, though the notes may not be absolutely correct in regard to each separate point, yet the whole supplies a fair working knowledge of the case in question.

Blank Form Used by the Illinois Teachers

Date..... Name..... Age....

Physical Notes.

Height..... Weight.....
Right or left handed.....
Chest measure { Lungs empty..... / Lungs full.....
Eyes { Color ..... / Visual distance { Right..... / Left.....
Hair { Color ..... / Texture .....
Indications of tubercular affections.....
Habit of sitting.....
Habit of standing.....
Deformities .....
Peculiar habits.....

Mental Notes.

Power of attention.....
" " observation .....
" " memory .....
" " imagination .....
" " reason .....
" " judgment .....
" " volition .....
Self-control .....
Perseverance .....
Power of oral expression.....
Courage, expressed how.....
Pride .....
Temper .....
Temperament in general.....
Affections { Egoistic ..... / Altruistic.....
Originality in thought.....
Rapidity of thought.....
Carefulness .....
Motive in school work.....
Purity of mind.....
(Place other remarks on back of this card.)
.....*Teacher.*

The Growing Child May Often Justly Complain of a Lack of Justice

As we study the growing human being more carefully and know him better in home and school, we shall treat him with more thorough

justice, and there is no question that a want of justice is something of which he may frequently complain. As a school superintendent said the other day, it is often as cruel to correct a child for laziness or sullenness as to reprimand a patient for being ill. The whole matter of punishment needs special observation and attention. We punish a child for lying when, as Sully says, he is only making his first poetry; we punish him for disobedience when he cannot distinctly hear our commands; and for carelessness in stumbling over objects and letting them drop when he can see nothing clearly. He falls under the ban for running away from home, and yet there is nothing there to interest him; and for playing with children whose society is forbidden, when he is given no pet and has not one live thing to keep him company. When he fails in his lessons he is frequently set longer tasks and kept from play in order to study; although his poor brains, like those of another vegetable on the Isle of the Tomtoddies, are already turning to water under the strain; and as he grows older he is continually being fitted into round holes by people who have never taken note of his lines and angles.

Truly the ways of these "little candidates for immortality," as Oliver Wendell Holmes loved to call them, are not always of pleasantness nor their paths, paths of peace; nor can they be so until a clearer vision of the real nature of the child has disclosed to us his true needs and possibilities. The physical, intellectual, and spiritual powers of the human being are so closely interwoven, acting and reacting upon each other continually, that we cannot guide the child's development rationally without knowing something of his individual endowment in all three directions. This knowledge is only to be gained by intelligent observation, reflection, and study.

PHYSICAL LIFE AND PROBLEMS

1. The Mother

THE HYGIENE OF PREGNANCY

BY

MRS. MAX WEST

EDITED BY

CECILIA FARWELL

Signs of Pregnancy

THE first and most natural question which occurs to the prospective mother is how pregnancy manifests itself. The presumptive signs of pregnancy are these:

(1) Cessation of menstruation.
(2) Changes in the breasts.
(3) Morning sickness.
(4) Disturbances in urination.

The first of these is generally the most commonly significant, and although other causes may operate to suspend the menstrual flow, it is usually true, especially if menstruation has heretofore been regular, that the missing of two successive periods indicates the existence of pregnancy.

If, at the same time, unusual sensations in the breasts, such as tenderness to pressure, stinging, prickling, and the like, are felt, they support the probability of pregnancy.

What is known as morning sickness, namely, the occurrence of nausea, usually upon rising in the morning, with or without vomiting, is noted in nearly two-thirds of all cases, and is especially noticeable in the first pregnancy.

Urination may be troublesome. In the beginning of pregnancy there is often the desire to empty the bladder frequently, or there may be other annoying symptoms. These are chiefly due to the irritation caused by the pressure of the growing uterus against the bladder, and disappear after the first few weeks.

One of the more significant signs of pregnancy is the movement of the child in the uterus. This is commonly called the "quickening," and is usually felt by the mother about the sixteenth or eighteenth week. After this there can scarcely be room for doubt that pregnancy exists, although there are other signs upon which physicians rely, and only a physician can make a positive diagnosis.

Consulting a Physician

The importance of the pregnant woman placing herself with a physician as soon as possible cannot be over-emphasized. Just as soon as she is confident, or has every reason to think, that she is pregnant, she should decide what physician she wishes to attend her during the trial before her, and should unreservedly place herself in his hands. It should be emphasized, too, that care in the selection of a physician is necessary; however fond of, or how much confidence one may have, in the old family doctor, in a crisis like this it is sometimes better to make a new departure and get in touch with a physician who is known to be a specialist in obstetrics, who will know of all the modern means of securing the best comfort and safety of the mother and the child.

A good physician will early familiarize himself with all of the conditions surrounding his patient, the home conditions which are apt to affect her in mental and physical ways. He will make an examination of the lungs, heart and kidneys, ascertain the blood pressure, examine the urine, and make sure that the organs of digestion, assimilation and elimination are performing their proper functions, and he will, during the months following, make sure that these organs are at all times normal. He will

also give such advice as to her manner of living as will be necessary to preserve her health and to remedy as far as possible such constitutional defects as she may have, and at this time, as we have said, she should place herself unreservedly in his hands and have no secrets from her physician. If she knows that she has any disease or taint of blood, syphilitic or gonorrhœal infection, the physician should be so informed in order that he may work to secure the best possible conditions for the child.

Our complicated modern civilization and the life led by the average woman have in a certain degree unfitted her for maternity. Incorrect habits of dress, lack of proper physical training in girlhood, and many other influences of which she has been herself ignorant have affected her physical growth and combined to make the period of maternity both difficult and dangerous, as well as exceedingly painful.

Sometimes the natural structure of the body is such that danger and pain are certain results of maternity. Often a physician by an examination of the pelvis and birth canal can determine as to whether or not it is possible that the child can be born in a normal way, and by measurements taken at intervals during the last part of the pregnancy can decide as to whether or not it is wise to bring on labor prematurely, while the baby is still small enough to pass through the contracted passage. Often a wrong position of the child in the uterus complicates labor and makes it more difficult, and the physician can guard against this if he has made careful examination throughout pregnancy.

It is imperative that the physician should observe all of these things, and no woman should listen to the advice of other women who have passed safely through such periods and sent for the physician at the last minute. She cannot know what are the conditions in her own case, and should not take any chances.

[In the paragraphs which follow we try to give something of advice and help, but no word in all of these should be considered as anything more than suggestions along the lines upon which the mother may act independently. She should consult her physician throughout the entire term of pregnancy and allow nothing to interfere with her obedience to his instructions.—EDITOR.]

Duration of Pregnancy

From an observation of countless cases of childbirth, in many countries and under all conditions, the length of the period of human gestation has come to be regarded as approximately 39 weeks, or 273 days. Counting 30 days to the month, it will be seen that the commonly accepted period of nine months is nearly correct. To estimate the date at which a given birth will occur, physicians employ a rule, which although far from exact, gives as close a reckoning as can be made. Counting forward 280 days from the beginning of the last menstrual period allows 7 days for the menstrual period, or, what comes to the same thing, counting backward 85 days. The simplest method is to count back 3 months and add 7 days, which is the average difference between three months and 85 days. In only about one out of twenty instances will the birth occur upon the exact date thus arrived at; some will occur a few days before and some a few days later; nevertheless this is as good a rule as can be found.

An example of the method of calculation is as follows: If the last menstruation began on October 30, counting back three months to July 30 and adding 7 days gives August 6 as the presumptive approximate date of confinement.

Diet during Pregnancy

A pregnant woman may safely follow the dictates of her appetite as to choice of food if her previous diet has been chosen with due regard to its suitability for normal living.

There are, however, certain general principles that she should take into consideration. One of these is that the excretory organs—the bowels, the kidneys, and the skin—should be kept in the best possible condition, because during pregnancy the mother must get rid of not only her own waste products but also those of the unborn child. It will be found, therefore, that a light, laxative diet, which is at the same time satisfying and nutritious, will tend to keep her in health. An ideal diet includes a relatively large proportion of liquids, a small proportion of meats, and a correspondingly generous proportion of fresh fruits and vegetables. Most physicians prefer that meat should not be eaten oftener than once a day, but allow a wide latitude in the choice of other foods.

It is well to understand that the accumulation of waste products in the system is the cause of various minor ailments as well as of some of the more serious complications of pregnancy. Since liquids help the bowels, kidneys, and skin to throw off waste products, and therefore do away with some of the sources of danger at this time, it is important that liquids should form a large part of the diet. The proper amount to be taken in 24 hours varies in different cases, but at least 2 quarts of liquid are needed, and sometimes 3 quarts. Much of this should be in

the form of water—usually from four to eight glasses a day. Other liquid foods are cocoa and chocolate, soups and broths, buttermilk and sweet milk. The last named is especially valuable, since milk not only contains all the elements of a perfect food, but is valuable for stimulating the kidneys to healthful action. If milk has a tendency to constipate, the persistent use of the laxative diet will probably do away with this objection. Every effort should be made to cultivate the taste for milk, for it is indispensable to the mother of a nursing baby.

If one is accustomed to the daily use of tea and coffee it is unnecessary to stop their use altogether, but an effort should be made to reduce the amount taken. No alcoholic drinks should be taken, since alcohol enters the fetal system unchanged by its passage through the maternal blood, and may injure the child.

Quantity of Food

The child gains nine-tenths of its weight and substance after the fifth month of pregnancy, so it is manifest that before that time there is little need for any addition to the mother's dietary, if that has been sufficiently nourishing for her needs. As the child gains half its weight in the last eight weeks, there will be an increased demand for the heat and energy-giving foods toward the end of pregnancy, which may be supplied by the addition of milk to the usual diet, taking a glass between meals and at bedtime in order to avoid overloading the stomach at the regular meals, with consequent distress. If milk is not always acceptable, some other light food may be eaten, such as cocoa or broth or soup with biscuit. The habit of eating lightly several times a day may do much to relieve the nausea which so often accompanies the earlier weeks of pregnancy.

Condition of the Bowels

Most women suffer from a more or less pronounced constipation during this period. This is due largely to the increased pressure exerted by the enlarging uterus upon the intestines, and becomes more pronounced in the later months. It is most important that the bowels should move freely at least once a day. This should be accomplished, whenever possible, by the use of laxative food, rather than by purgatives or enemas. A properly laxative diet will include fresh fruits, such as apples, peaches, apricots, pears, oranges, figs, cherries, pineapples, grapes, plums, strawberries, raspberries, or grapefruit, according to season. Cooked fruits, such as prunes, figs, apples, peaches, and apricots, are less effective, but may be eaten freely. Graham and whole-wheat bread, corn meal, the bran foods, and coarse meals, such as oatmeal and grits, stimulate the intestines and increase their activity. Ordinary bran eaten raw with wholesome cream is often exceedingly beneficial when other dietary preparations have not produced the desired results.

Fresh vegetables, especially the green ones, eaten with olive oil, also have a laxative effect. Onions, asparagus, tomatoes, peas, potatoes, lima beans, carrots, string beans, spinach, celery, cress, and lettuce, as well as others, may be eaten in most cases. Cabbage, cauliflower, turnips, baked beans, radishes, and onions are not always readily digested. When this is the case they should, of course, not be eaten. If constipation persists in spite of dietary measures, senna, which is a well-known remedy, may be tried.

A doctor should be consulted before resorting to purgative medicines. Enemas, if regularly employed, are considered harmful; at best, they only relieve the lower bowel, and probably tend to destroy the natural muscular activity of the intestinal wall.

Three Simple Recipes

Bran Bread.—1 cup of cooking molasses, 1 teaspoonful of soda, 1 small teaspoonful of salt, 1 pint of sour milk or buttermilk, 1 quart of bran, 1 pint of flour. Stir well, and bake for one hour in a very slow oven. It may be baked in a loaf, or in gem pans, as preferred. The bread should be moist and tender, and may be eaten freely, day after day, and is quite sure to have a salutary effect if used persistently.

Senna Prunes.—Place an ounce of senna leaves in a jar and pour over them a quart of boiling water. After allowing them to stand for two hours, strain, and to the clear liquid add a pound of well-washed prunes. Let them soak overnight. In the morning cook until tender in the same water, sweetening with two tablespoonfuls of brown sugar. Both the fruit and the sirup are laxative. Begin by eating half a dozen of the prunes with sirup at night, and increase or decrease the amount as may be needed.

Senna with Prunes and Figs.—This recipe does not call for cooking. Take a pound of dried figs and a pound of dried prunes, wash well. Remove the stones from the prunes, and if very dry soak for an hour. Then put both fruits through the meat chopper, adding two ounces of finely powdered senna leaves. Stir into this mixture two tablespoonfuls of molasses to bind it together, the result being a thick paste. Begin by eating at bedtime an amount equal to the size of an egg

and increase or decrease as may be necessary. Keep the paste tightly covered in a glass jar in a cool place. If the senna is distasteful a smaller quantity may be used at first.

Exercise

The pregnant woman should spend each day at least two hours, and as much more as possible, in the open air. In pleasant weather, walking is a valuable form of exercise, if taken leisurely and not continued to the point of weariness. She should avoid fatiguing and dangerous sports, and will find it wise to begin open-air exercise very moderately. Easy garden work is a good form of exercise and diverts the mind, but it must be an amusement, not a task. Pleasant open-air occupations invigorate the muscles, stimulate the sweat glands and other excretory organs, strengthen and restore the nervous tissues, clear the brain, increase the heart action, and send a greater supply of blood to all parts of the body, thus promoting the digestion and assimilation of food, renewing the mental and moral health, increasing courage and cheerfulness, and finally develop character itself. There is nothing that takes the place of out-of-door life. If the day be too cold or stormy to go out, a walk may be taken on the porch, or in a room with the windows wide open. A daily walk should be taken until near the end of pregnancy, when it may become wearisome to the point of real fatigue.

The pregnant woman should not forget that, while needing exercise, she must conserve her strength and build it up, not tear it down with violent or exhausting forms of activity. Those who are busy with their household duties, with often more than they can do comfortably, may derive greater benefit from sitting quietly out in the fresh air, if the weather is suitable, and resting while they sew, read, or chat.

One of the less obvious but equally important results of this out-of-door life is the amount of mental diversion which it affords. The sights and sounds of the open often induce a happy change of view and take the pressure off the overworked nerves even in the presence of genuine cause for worry.

Clothing

The first purpose of clothing is to keep the body suitably warm in order to maintain an even circulation of blood and keep the sweat glands active. On this account it is wise, except in summer, when the heat of the weather keeps up a free perspiration, to wear sufficiently warm clothing, and to wear it so evenly distributed over the whole surface of the body that the various parts are kept at approximately the same temperature. Clothing, of course, must be adapted to the demands of climate and season.

Maternity Dress.—It is possible to have maternity clothing which is not only perfectly healthful, but both comfortable and pleasing without being conspicuous, so that the prospective mother need not deny herself the pleasure of going out among her friends. The one-piece dress, with waist and skirt fastened together at the belt, requiring only one light-weight petticoat, is distinctly advantageous to the woman preparing a maternity wardrobe. [Dark shades make the figure appear smaller. Deep plum, maroon, or dark blue will be found less trying than black, as the complexion may not be at its best at this time.—EDITOR.]

Union undergarments, with or without neck and sleeves, according to the weather; a maternity waist or corset without bones; side elastics fastened to the corset or waist, are suitable to this condition. Thus clothed, there will be no dragging skirts, nothing to bind the abdomen and breasts, and no garters to impede the circulation and cause varicose veins.

Corsets.—The ordinary corset should be discarded early in pregnancy. The present-day "straight-front" corset, which is so great an advance upon any previous model in general hygienic qualities, is, nevertheless, not adapted to the enlarging breasts and abdomen of pregnancy. There are models which are intended for this purpose, and if a woman cannot, with comfort, do without a corset entirely, it will add greatly to her convenience if she provides herself with one of the proper sort. In the later weeks of pregnancy an abdominal support will be found helpful.

Shoes.—Since there is nothing that more effectually disturbs the nervous equilibrium than painful feet, it is especially important to give attention to their care at this time. Comfortable, well-fitting shoes are a first requisite. Toward the end of pregnancy the feet sometimes swell, so that larger shoes are necessary for comfort; low heels should be worn, since there is danger of falling or of turning the ankles, and high heels throw undue pressure upon the lower part of the abdomen, which is already under a strain.

Care of the Skin

During pregnancy the work of the excretory organs, of which the skin is an important one, is increased. The skin is furnished with millions of tiny pores, which provide an outlet for the waste material thrown off by the sweat glands. It is estimated that about a pint of water is

eliminated each day through the pores of a healthy person. If they become clogged the waste products are retained in the blood until they can be disposed of by the lungs, bowels, and kidneys. In order to keep the pores open and the skin in a condition of normal health, a shower, tub, or sponge bath should be taken every day. The main object is to stimulate the circulation, and this object is gained when the entire surface of the body is wet and afterwards rubbed briskly with a rough towel. A morning bath is more effective, and there is less danger of taking cold if the water is at least cool. If the woman is accustomed to the daily cold bath, there is no reason why it should be given up at this time, provided she gets a healthy glow afterwards and the shock is not too great, but it is well to moderate the temperature. While the cold bath is invigorating and stimulating, as well as refreshing, the warm bath is necessary for the thorough cleansing of the skin. Warm baths, with soap, should be taken at night, two or three times a week. There are times when a hot bath is restful and beneficial, but a pregnant woman should avoid taking such a bath at the time of the normal menstrual period, and should regard it as a remedial agent, not to be too frequently employed. Both hot and very cold baths are to be used with much discrimination.

Fresh Air and Ventilation

Plenty of fresh air, night and day, is indispensable to the health of the pregnant woman. She should sleep with the windows open at all seasons of the year. An out-of-door sleeping-room, where it is possible to so arrange, is an advantage. And many persons, who are quite particular to open the windows in their bedrooms, forget that the other rooms need it quite as much. All the rooms of the house which are occupied should be thoroughly ventilated by throwing open the windows and doors every morning. In the evening when the family is assembled in one room the air must be changed now and then or it will become unfit to breathe.

Condition of the Breasts

It should be the hope, as it is the first duty, of every mother to nurse the coming baby, and in preparation for this function all the healthful measures already set forth will play an important part. In addition to them, however, the breasts and nipples may require some special attention. Ample room for the development of the breasts must be allowed at all times by loose clothing. It will be well to have the physician observe the condition of the nipples about eight weeks before confinement, in order that he may determine whether or not they require special treatment. For toughening they may be washed with warm water and soap at bedtime and anointed afterwards with lanolin and covered with a piece of soft linen.

Care of the Teeth

The teeth are thought to be more susceptible to decay during pregnancy than ordinarily. This may be partly explained by the demand for the lime salts needed to build up the child's skeleton and partly by the effect that the regurgitation of the acid contents of the stomach has in the development and enlargement of cavities, which lead to toothache and the loosening of the teeth. As soon as she knows that she is pregnant a woman should go to a good dentist and have such repairs made to her teeth as are needed. The teeth should be brushed after each meal and the mouth well rinsed after any attack of vomiting or eructation of gas. Excellent washes for the mouth are a teaspoonful of milk of magnesia or a tablespoonful of limewater or half a teaspoonful of common baking soda dissolved in a glass of water, or other antiseptic washes.

Care of the Hair

[The hair is frequently affected by pregnancy. Often it grows luxuriantly, but this luxuriance is apt to be lost after confinement unless great care is taken. The scalp should be massaged and the hair brushed with a stiff brush for from ten to fifteen minutes every night. The hair should be washed at least once a month, using care not to take cold. If the scalp is dry, rub a little vaseline into it several times a week, or as often as seems to be necessary.]

Disturbances of the Kidneys

In order to know whether the kidneys are performing their function normally, the quantity of urine passed in 24 hours should be measured. If there is less than 3 pints the patient is not drinking enough water. The same conclusion may be drawn when the urine has a darkened color and shows sediment, which conditions are usually due to concentration of the urine. The patient can draw no other conclusions from the appearance of the urine. Albumin and sugar, the two most significant abnormal elements, give no clue to their presence save in response to specific chemical tests. Accordingly, specimens of the urine should be submitted frequently to a physician, in order that he may make these tests, and, in case anything abnormal is found, order proper treatment. This examination is so important for her

welfare that every woman should insist upon having it made at least once a month during the first half of pregnancy, and oftener toward the end. It is comparatively little trouble to do this, and is a precautionary measure that may serve to prevent a serious complication later. The method to be employed in collecting the urine is as follows:

Use a perfectly clean vessel or jar with a cover. Scald it thoroughly and keep in a cool place. Beginning at some convenient hour in the morning, say 8 o'clock, empty the bladder and throw the urine away. Thereafter empty the bladder into the jar each time until the next morning at the same hour. Keep the jar tightly covered. Measure the amount of urine passed, and, after shaking it well, fill a perfectly clean 6-ounce bottle, cork tightly, label with the name, date, and 24-hour quantity, and send at once to the doctor. A teaspoonful of boracic acid will help to keep the contents of the jar from decomposing.

Nausea and Vomiting

The distressing but not usually alarming ailment known as "morning sickness" may sometimes be relieved by taking a little dry food before rising, such as toast or crackers, chewed and swallowed without liquid; and some women find comfort in taking a cup of tea or coffee. An excellent preventive measure lies in eating six small meals a day, instead of three large ones, and eating very lightly at the last meal of the day. It is important to do all one can to ward off the initial attack, as the tendency to nausea is easily established. To adopt and maintain a healthful mental attitude is of great importance, as worry or any other morbid condition of the mind exaggerates this ailment. It is wise, therefore, to use every effort to keep the mind from dwelling on the subject of sickness and anticipating an attack of nausea. Out-of-door life and plenty of normal, happy interests will help to counteract this illness. If vomiting persists or increases, the doctor should be notified.

Heartburn

"Heartburn"—which has nothing whatever to do with the heart—is the sensation of burning in the throat caused by an abnormal development of acid in the stomach. Since fat taken before meals serves to retard the secretion of acids, the trouble may sometimes be relieved by taking a glass of rich milk or a tablespoonful of olive oil 15 or 20 minutes before mealtime. If, however, the attack has begun, fat but makes it worse, and the patient must refrain from all fat, such as butter, milk, cream, and fried and greasy foods, until the attack is over. Some physicians prefer to treat this trouble by means of alkaline drinks.

Varicose Veins

The swelling of the surface veins of the legs, caused by the unusual pressure on the blood vessels, is a somewhat common accompaniment of pregnancy. The patient suffering from this trouble should sit or lie down very often, and when sitting should rest the feet on a stool or chair in order to relieve the pressure. Relief in severer cases may be obtained by wearing a thin flannel bandage about the calves of the legs. Bias strips of flannel, 3 inches wide, are sewed together flat until the strip measures 8 yards in length. It is best to bandage the legs before rising. Begin to wind at the toes, leaving the heel uncovered, carrying the bandage round and round the leg and well over the knees, or higher if the veins of the thigh are distended. The doctor or nurse will demonstrate the method of bandaging if the patient finds it difficult. If in spite of these measures the trouble persists, the doctor will direct the treatment.

Hemorrhoids or Piles

This ailment differs from varicose veins only in the location. Constipation exaggerates the trouble, and straining to evacuate the bowel is always to be avoided. The call to the closet should be heeded the moment it is felt, but if the bowel does not move readily some simple laxative, such as licorice powder, should be employed. The constant use of a laxative diet is the best preventive measure. The patient should lie down frequently while the attack persists. A pillow under the hips often relieves the pain.

Cramps

In the later months of pregnancy the pressure on the nerves of the legs sometimes gives rise to cramps in the leg muscles. They may attack the patient during sleep or when the legs are suddenly stretched, upon waking. The pain is relieved by rubbing, applying hot cloths, or by elevating the feet.

Leucorrhea

This is the whitish discharge from the vagina, due commonly to the congestion of the vaginal walls resulting from the pressure of the enlarging uterus on the blood vessels through which the blood is ordinarily returned to the general circulation. It is often annoying, but not usually serious. Douches should not be taken for its relief save under medical direction.

Toxemia

As the child in the uterus grows there is constantly being sent back into the mother's blood an increasing amount of waste matter; if, in addition, the mother's own nutritional processes are imperfect, and there is difficulty in eliminating all these waste products, a condition may result which will be more or less serious for both mother and child. This condition is called toxemia. Some of the common symptoms of toxemia are:

(1) Serious or persistent vomiting.
(2) Repeated headaches.
(3) Dizziness.
(4) Puffiness about the face and hands.
(5) Blurring of the vision, or spots before the eyes.
(6) Neuralgic pains, especially about the pit of the stomach.
(7) Muscular twitching.

It must be understood that one or more of these symptoms does not necessarily indicate that toxemia is present, for in many cases the cause of these disturbances may be very easily removed and result in nothing of any consequence. But when such symptoms appear they should always be brought to the attention of the doctor and it will be well to send a specimen of the urine to him immediately. Prevention of the serious results of toxemia, by observing and reporting the symptoms which precede it to the doctor, is of great moment. There is no possible virtue in enduring any pain or distress that can be prevented by proper means, and much harm may result from neglect.

The pregnant woman should strive to keep in mind the plain and simple rules for health, the most important of which it may not be amiss to bring together here:

(1) Guard scrupulously against continued constipation.
(2) Avoid an excessive quantity of meat.
(3) Drink a liberal amount of water.
(4) Take plenty of out-door exercise and keep all the rooms of the house well ventilated day and night.
(5) Bathe every day.
(6) Wear light but suitably warm and comfortable clothing.
(7) Sleep at least 8 hours out of 24, and do not become overtired at any time.
(8) Have the urine examined at stated intervals.
(9) Strive to be happy, seek self-control, and do not worry.
(10) Consult the doctor when symptoms of illness persist.

Miscarriage

It is not until the eighteenth week of pregnancy that the union between the placenta and the uterus becomes firm, consequently it is during these early weeks that miscarriage is most likely to occur. There are many possible causes. Among them are heavy work, such as washing, sweeping, lifting, or moving heavy burdens, running a sewing machine, or other form of taxing labor, or it may result from indulgence in amusements that jar the body, such as dancing, skating, tennis, golf, horseback riding, climbing, or jolting over rough roads in a carriage or automobile. Miscarriage may also be due to imperfect development of the embryo or to some constitutional disease of the mother, or to some fault in the position of the uterus or to some abnormality of its lining, and in these cases it cannot usually be avoided. Many times the cause is impossible to discover, and a woman may establish the habit of miscarriage.

The prevention of many of these accidents lies in guarding against overexertion in the early weeks. If the tendency to miscarriage has been established a prolonged stay in bed may carry a woman past the danger when no other means will avail. At the first appearance of bleeding or abdominal pain, the patient should go to bed at once. It is wise to send for the doctor in all cases, but especially if the pregnancy has advanced beyond the sixth week. If the doctor cannot readily be summoned she must keep herself perfectly quiet until the disturbance has subsided. If the miscarriage occurs before the sixth week it may appear as nothing more than an unusually severe menstrual period, but a miscarriage at whatever stage is due to the loosening of the membranes which surround the fetus from their attachment to the walls of the uterus. If this loosening is so slight that the life of the fetus is not endangered a miscarriage may be averted, as has been said, by rest in bed. But if the bleeding continues or increases it shows that so great an area of the placental tissue has been detached from the uterine wall that miscarriage is sure to result. The danger then is that portions of this tissue may adhere to the uterus and not be expelled. In order to determine whether this is the case it is quite important that a doctor should be in attendance, and that whatever has been expelled be saved for his inspection. A neglected miscarriage may mean the total loss of health, while, on the other hand, a properly attended miscarriage is scarcely more likely to have bad

results than a delivery at term. It is unreasonable and dangerous to regard a miscarriage as something to be concealed, and on this account to deprive oneself of proper care and treatment. This should be treated as any other illness and such measures be taken as will best conserve the future health.

Maternal Impressions

By a maternal impression is meant an injurious physical modification of the child through the influence of some harmful state of mind in the mother. Since there is current more misinformation on this matter than almost any other connected with the whole subject of maternity, it seems wise to deal with it at some length. The underlying anatomical facts are so technical that a simple brief explanation is somewhat difficult; but since the belief in the "marking" of babies is so widespread and productive of so much anxiety, it is comforting to know on what slight foundations the belief rests. It is thought that if the mother is injured or sees another injured or observes a deformed or defective person, the impression made on her mind will cause a corresponding defect in the child. Doctors and other scientists are now practically agreed that these opinions have no basis in fact.

So far as is known there is no connection between the mother and the child in the uterus by which nervous impressions can be conveyed. The only communication between the two lies in the interchange of the materials of nutrition and excretion through the placenta, where, by processes not yet clearly understood, the food which the developing child needs is extracted from the maternal blood, and the waste products resulting from the child's growth are taken up by the maternal circulation and disposed of with those of the mother. The mother's blood never enters the child, so that even if the blood were able to convey nervous impressions, the fact that the two circulations are separate and distinct makes the direct injury of the child in this way an impossibility. Indeed, it appears that nature in thus erecting a barrier between the mother and child has specifically provided for the protection of the fetus from such injuries.

Few mothers have not at some time during their pregnancies had experiences of a disturbing nature. Most babies ought to be born "marked," if this belief is true. Manifestly this is not the case. It is not the case oftentimes even when the result has been expected. An American obstetrician of wide experience says that it is his opinion, based on an observation extending over a number of years among all classes of mothers, that the cause which was expected to show some harmful result to the baby was ineffective in ninety-nine cases out of a hundred, and that the hundredth case was coincidence.

Many women do not realize until the sixth or eighth week that they are pregnant. Investigation has shown that the form of the child is established by the beginning of the third month, therefore disturbing events which occur in the later months plainly can have no effect.

But it must not be assumed that the mother is a passive instrument in the process of embryonic and fetal growth. The harm which a mother may do her child in the uterus is not in the fortuitous, accidental manner above suggested, but rather by her failure to order her own life in the way that will result in the highest degree of health and happiness for herself and, therefore, for the child. The child is undoubtedly protected from direct injury by means of occurrences outside the control of the mother, nevertheless he is subject to harm or benefit from conditions that are usually quite within her own control.

The child in the uterus is entirely dependent for its development upon the materials of nutrition which it extracts from the blood of the mother in those mysterious processes of interchange which occur in the placenta, and it is only through nutrition that the mother is able to influence the child's future. If, then, she lives in such a manner as to establish and conserve her own health, taking plenty of sleep and exercise, eating sensibly of simple food, and in every way striving to take the best possible care of her own body, so that the digestive, assimilative, and excretory functions are carried on in the highest degree of efficiency, she can be quite sure that the child will be able thereby to build up for himself a sound and normal body and brain. If a woman neglects these plain rules of health, and goes through her pregnancy repining or lamenting her condition, paying but slight attention to her own bodily functions, the child is robbed of the nutrition he needs for his own best development. There can be little doubt that many puny, wailing babies did not get the right sort of nutrition during the prenatal period, and that their nervous condition, often attributed by their mothers to "maternal impressions" and nervous states of pregnancy, are really due to the lack of proper nourishment when the little body was beginning its growth, and doubtless many infant deaths are traceable to these causes.

Engaging the Doctor and the Nurse

Engage the doctor as early in the pregnancy as possible. He may have very little to do

beyond giving advice and making the routine examinations of the urine, but he will be much more competent to deal with any untoward symptoms that may develop.

Consult the doctor before engaging the nurse. Most physicians have the names of competent nurses on file, and if the doctor and nurse are used to working together it makes things easier. [It is important, however, that the nurse should be satisfactory to the mother, who must depend much upon her, and who may be made nervous and unhappy if the nurse is uncongenial. —EDITOR.] The nurse should be engaged some time in advance. Since the date is uncertain, it must be quite clearly understood when her pay begins. She should visit the patient a few weeks before the expected date and make herself familiar with the rooms and arrangements for the birth. The services of the nurse will be required for a varying length of time, depending upon the peculiarities of the case, but it may be laid down as a truth that a competent nurse, employed for two weeks at least, and for three or four in many cases, will be an economy in the long run. Many a case of life-long invalidism has resulted from the lack of suitable and sufficient attention from the doctor or nurse, or both, at confinement, and the extra dollar spent then may save a greater expenditure later and an expenditure which may prove futile as well.

Confinement at the Hospital

It is becoming more and more common for women to prefer to go to a hospital to be confined. The hospital has many advantages over the private house at this time. It is cheaper, safer, and far more convenient. There can be no doubt that it is safer, for if any emergency occurs there are not only all the appliances which may be required ready for instant use, but doctors and nurses ready to assist in any way that their services may be needed. It is cheaper, not only because of the number of things that must be provided for a home confinement, but because the nurse's salary, board, and laundry must be paid. In the hospital the weekly amount paid includes the board of the patient, the routine care, and all appliances of every sort that will be used. Private physician's fees and laundry are usually extra charges, as is a special nurse if it is found desirable or necessary to have one. If the doctor finds that she is needed he can make the arrangement.

Confinement at Home

The brightest room in the house should be chosen for the delivery. If possible, it should be close to the bathroom, and if there is a communicating room that can be given up to the use of the nurse and the baby, this will be a great advantage. The room should be made as clean as possible, and all draperies, hangings, and upholstered furniture should be removed.

A single metal bed, either iron or brass, and a comfortable mattress are desirable. The ordinary double bed is inconvenient—it is both too wide and too low. If a low bed must be used, it will be well to elevate it by putting blocks, 6 or 8 inches high, under the four legs, first removing the casters so that there will be no danger of the bed slipping off. The bed should be placed in such a position that both the doctor and the nurse can get at it at once, and so that a good light falls upon it, especially at night, for in case stitches must be taken a proper light is of the first importance. A portable electric lamp is a great convenience under these circumstances.

If the confinement takes place at home, it is possible in many places, particularly in large cities, to secure the services of the visiting nurse, who will come as needed, and is paid only a small fee per visit. If the confinement is normal, and there is some one in the home to do the housework, the needs of mother and baby may be very well provided for in this way, and at a much smaller cost than when a trained nurse is employed for the entire time. But the attendance of a nurse for at least two weeks is desirable, if possible to so arrange.

Supplies Needed

If the confinement is to take place at home, the following articles are likely to be needed:

Two to four pounds of absorbent cotton.
One large package of sterile gauze (25 yards).
Four rolls of cotton batting.
Two yards of stout muslin for abdominal binders.
Twelve old towels or diapers.
Two old sheets.
Two yards of bobbin, or very narrow tape, for tying the cord.

From these supplies the mother or nurse may make the necessary pads and bandages, which should then be sterilized, in accordance with directions which follow. Other things that may be needed are:

One hundred bichloride of mercury tablets.
Four ounces powdered boric acid.
One bottle of white vaseline.
One pound of Castile soap.
One quart of grain alcohol.
One douche pan.
One stiff hand brush.

One slop jar or covered enamel bucket.

Three pottery or agateware basins, one 16 inches and two 11 inches in diameter.

Pitchers at least three, holding 1 quart and upward.

One and one-half yards of rubber sheeting, at least 36 inches wide, or

One and one-half yards of white table oilcloth, to protect the mattress.

One 2-quart fountain syringe.

One medicine glass.

One medicine dropper.

One drinking tube.

Preparation of Dressings

Sanitary pads.—These are used to absorb the discharges after the mother has been delivered. They are 10 inches long and 4 inches wide. As absorbent cotton is comparatively expensive, it will be found more economical to make the greater part of each pad of the batting, facing one side with a layer of the absorbent kind. Cut the sterile gauze into pieces of the right size to fold around the cotton, and extend 2 or 3 inches beyond it at each end. These pads should be about an inch thick, and at least 5 dozen will be needed. They are pinned front and back to the abdominal binder, which is simply a strip of cotton cloth 12 inches wide and long enough to be fastened comfortably around the abdomen.

Delivery pads.—These pads should be a yard square and 4 inches thick. Cotton batting may form the principal part of the thickness, but the top layer of absorbent cotton should be at least 1 inch thick. Make two of these pads. Cotton waste, if boiled in washing soda and dried thoroughly in the sun, makes a cheap and effective filling in the place of batting, but as the texture is very loose a thicker layer must be used. If necessary, newspapers may be used both to protect the mattress and for the delivery pads. For the latter use they should be covered with old sheets which have been sterilized.

Gauze sponges.—Two dozen of these will be needed. They are made by cutting sterile gauze into 15-inch lengths, the width of the gauze. Fold down one raw edge about 3 inches; double the strip by putting the selvage edges together, having the raw edge of the fold on the outside. Fold this into thirds both ways and turn the sponge inside out, so as to have all the raw edges inside.

Cotton pledgets.—These are wads of absorbent cotton, the size of an egg, having the ends of the cotton twisted into the roll. Make several dozen and put them in a small pillowcase or cheesecloth bag.

Gauze squares.—Cut fifty 4-inch squares of the gauze. These will be used to wash the baby's eyes and for other purposes.

Bobbin.—Cut ordinary cotton bobbin into six 9-inch lengths for tying the cord.

How to sterilize.—It is possible to sterilize the dressings in the oven, but as dry heat is less effective than moist heat, and there is danger of scorching by this method, it is better to use steam. To accomplish this, the smaller things may be sterilized in a large kettle or saucepan, and the larger ones in the wash boiler. For the first, invert a bowl several inches high in the bottom of the kettle. On this bowl lay a plate, and on this place the dressings. They may be put into a cheesecloth bag for ease in handling. Let the water just cover the bowl and cover the kettle tightly. The articles should remain for one hour after the water begins to boil. To sterilize in the boiler, a convenient method is to suspend the dressings in the steam by means of a hammock made of stout muslin, which is merely a strip somewhat longer than the boiler, so that it will hang down to about a third the depth of the boiler. It must be fastened securely to the handles of the boiler by means of a stout drawstring run through each end and, for additional security, down each side as well. The boiler should be filled about one-quarter full of water. If the dressings are placed in loose cheesecloth bags, it will facilitate handling them. After the articles have been put in the hammock the boiler cover should be put on and the articles left to steam for an hour, when they may be removed and dried thoroughly in the sun by pinning the bags to the clothesline, or, if that is not possible, they may be dried in the oven, being very careful not to burn them. They are then to be put away in a closed drawer until needed.

Nursery Equipment

The essential articles for the baby's nursery are a comfortable bed and the things that will be needed in his toilet. The following list will be found to include the essential items:

An old soft blanket.

Four dozen safety pins of different sizes.

Some old soft towels.

Soft wash cloths.

Hot-water bag, with flannel cover.

Talcum powder.

Castile soap.

Olive oil.

Two ounces of boric acid.

A crib. If desired, a clothes basket makes a good bed. A basket or box that may readily

be moved about is a great convenience. The mattress for any sort of a bed may be made from table felting, which, when folded a few times, makes a very soft, smooth bed and has the great advantage over the ordinary mattress that it may be washed and boiled and dried in the sun.

Additional Conveniences

Below is a list of additional articles that will be found convenient in the care of the baby:

Bathtub, tin, galvanized-iron ware, or rubber.

Drying frames for shirts and stockings.

Bath apron of turkish toweling or outing flannel.

A low chair, without arms.

Baby scales.

A low screen, to protect the baby while it is being bathed.

A low table on which to bathe and dress the baby.

Outfit for the Baby

The expectant mother often wastes much vital energy in the preparation of an elaborate layette, only to find that many of the garments are outgrown before they are worn. It is much more economical, not only of materials but of the mother's strength, to make only a few very simple garments at first. Later, when the baby is older, such a wardrobe as the mother desires may be added, but plain garments of the softest materials procurable are the most suitable for a little baby.

Large dealers now supply the entire outfit for an infant, and in many cases it is an economy to buy one of these layettes complete.

In preparing for the new born several principles should be kept in mind. The first is that the garments must be warm without being unduly heavy; another, that they must be loose enough to provide for perfect freedom of the muscles; the third is the desirability of perfect simplicity; and the fourth that of cleanliness. Adornment serves no other purpose than to gratify the mother's desire for beauty.

The Baby's Clothes

The following list includes all the garments that it is necessary for any young infant to have for the first few weeks of life:

Three abdominal bands, 6 to 8 inches wide and 20 inches long, soft flannel strips, unhemmed.

Three shirts, size 2, wool and cotton, or wool and silk, not all wool.

Four flannel skirts, "Gertrude" style.

Three nightgowns or wrappers of outing flannel, buttoned in front.

Eight white slips.

Three knit bands, with shoulder straps, part wool.

At least 4 dozen diapers.

Cloak.

Cap.

Carriage blanket of crocheted or knit wool.

Three pairs of socks, if in summer; three pairs of long white merino stockings, if the weather is cold.

Birth of the Baby

At the conclusion of the nine months' period nature has directed that the child shall be born. This involves the expenditure of energy, and thus the name "labor" has been given to the act of birth. Although it may be painful and exhausting it should ordinarily proceed and terminate in a normal manner, provided the patient has had proper care during her pregnancy, and is in the hands of a competent physician who understands the necessity for perfect cleanliness and uses every means to secure it.

Precautions That Must Be Taken

The prevention of the infection that gives rise to puerperal septicemia, or "child-bed" fever, as it was formerly called, lies in the scrupulous care taken by everyone who is concerned in any way with the attendance upon a woman in childbirth to allow nothing not absolutely clean to touch her. This is a wholly preventable disease, since its cause and the measures necessary to prevent it are well known, and all women in childbirth or their families have a right to insist upon this protection. No physician who values his professional reputation will be satisfied to neglect any of the well-understood precautions against this most dreadful disease. The patient, the family, and the nurse must be ready in every way to aid the physician in this effort.

Labor

The progress of labor may be divided into three stages. The first is occupied with the dilatation of the mouth of the uterus, the second with the expulsion of the child, and the third with the separation and expulsion of the afterbirth and membranes.

If the confinement is to occur at a hospital, the patient should be ready to go at the first pain. The ride to the hospital will help to pass the time, and may also serve to hasten the delivery. The patient will take with her a bag that should be packed some time before, containing all that she will need, and the baby's first outfit.

First Stage of Labor.—The first is the longest and most trying to the patient. In this stage the mouth of the uterus, which is less than one-quarter of an inch in diameter at first, must increase to 3½ or 4 inches before it is large enough to admit the passage of the child's body. This process may occupy some hours, and is very tedious to the patient, because she is unable to feel for herself that she is making progress. To pass the time between the pains, she may occupy herself in any way she likes; she may sit down, lie down, walk about, or sometimes even sleep. The pains will recur at decreasing intervals and with increasing strength as the dilatation of the mouth of the uterus proceeds, and in the early part of this stage the patient should summon the nurse, if she is not already at hand, and notify the doctor that the confinement has begun. Since the doctor cannot hasten the progress of this stage, it is not usually necessary for him to remain with the patient continuously. He should keep close watch of the case throughout and be always within easy call and give advice on all details. The bed should be made ready, protecting the mattress with the rubber sheet or oilcloth or several layers of newspapers, and an extra sheet, folded in the middle, pinned across the bed under the mother's hips. This sheet may be drawn out after the birth, leaving the bed clean and dry.

Second Stage of Labor.—The second stage of labor is much shorter than the first, usually from two to two and one-half hours. It is less trying to the patient, because the pains are of an expulsive nature, accompanied by the inclination to strain, so that with each pain she can feel that she is accomplishing something. The pain of the actual birth may be lessened or altogether deadened by the use of an anesthetic, if the physician so decides. The "bag of waters," as the fluid surrounding the child is called, is usually ruptured as the expulsive pains of this stage begin, and after this occurs, if conditions are normal, it will not be long before the child is born. In case the bag of waters is ruptured earlier, as sometimes happens, the birth is said to be "dry," and will probably proceed somewhat more slowly than otherwise.

Third Stage of Labor.—After the baby is born the third stage of labor, namely, that occupied with the detachment and expulsion of the afterbirth and membranes, takes place. This occupies about half an hour. "After pains" are the pains which immediately follow the emptying of the uterus, and are due to the natural contractions of its muscle fibers. These pains are less apt to be felt in a first pregnancy than in later ones.

Emergencies

It sometimes happens when labor comes on earlier than was expected, or the doctor is at some distance, that the baby is born before the arrival of the doctor or nurse. In an emergency like this the correct course to pursue is as follows:

The delivery room must be set in order and the bed freshly made. The mattress should first be covered with the rubber sheet or oilcloth, or in emergency newspapers may be used. The patient should have an enema of warm soapsuds and take a warm bath, if possible. At least, the external genital organs should be well washed. The sterilized dressings, still in their packages, should be put close to hand, and two quarts of bichloride of mercury should be prepared, following the directions on the bottle for a one-thousandth strength. (If the doctor prefers a weaker solution or a different antiseptic, he will give the proper directions when he takes charge.) The greatest care must be taken not to leave the solution or the tablets within reach of a child, since they are deadly poison. A large kettle of water should be boiled and cooled without being uncovered.

Meanwhile, if matters have progressed so far that the pains are returning every five minutes, or if the "waters" have broken, the patient should go to bed; she will lie on her back, with the knees drawn up and spread apart. (If a doctor is in charge, he may prefer another position.) When the pain comes the patient will bear down, but will not attempt to strain save when the desire to do so is imperative.

Whoever is at hand to render assistance should thoroughly disinfect the hands by scrubbing them for five minutes in warm water, using a brush and plenty of soap. After they have been washed, the nails cleaned, and the hands washed again they should be soaked in the bichloride solution for five minutes, or longer, if there is time. If bichloride solution cannot be had at the moment, soak the hands in alcohol. The attendant will then put one of the delivery pads under the patient's hips (pads of newspapers slipped inside a folded sheet may be used), and sit by her constantly until the baby is born, but should not touch her until the head of the baby appears. After the head is born, if the face of the baby turns blue, the patient should be told to strain vigorously, and at the same time she may press with both hands upon her abdomen, while the attendant grasps the baby's head by the chin and under the back and pulls it steadily but gently downward. These measures will shortly effect delivery.

The Cry of the Child.—As soon as the child is born it should take a breath and cry. If it does not do this, the attendant must slap it smartly upon the back, meanwhile holding it up by its feet for a moment. When it cries it should be laid down close enough to the mother so that the navel cord will not be stretched, care being taken not to smother it or allow any of the discharges to touch its face. Then the attendant will tie the cord twice, once at a distance of 2 inches from the child's navel, once 2 inches nearer the mother, using pieces of the sterilized bobbin or other string that has been boiled. The cord is then cut with the scissors, between the two ligatures. There will be a single spurt of blood, but bleeding will immediately cease if the ligatures are tight. If bleeding from the baby's navel should not stop altogether another ligature should be made nearer the navel without disturbing the first. The baby should then be covered with something warm and soft, and removed to a place of safety while the mother is being taken care of.

The Placenta.—The separation of the afterbirth takes place within 10 to 30 minutes in most cases. Sometimes the interval is as long as two hours, but the process must not be hurried, save under the doctor's direction. Sometimes the mother can help the matter by straining as she did to bring the child, but unless the doctor or nurse has arrived it is better to be patient and wait for the natural removal of the contents of the uterus. All the soiled pads and dressings and the mass of tissue expelled must be saved for the doctor's inspection. After the soiled pads have been removed the region around the vagina is carefully washed with the bichloride solution, using pieces of the sterile gauze or some of the cotton pledgets for this purpose. An abdominal binder and one of the sanitary pads are then put on. All the soiled dressings are removed and the pad beneath the mother renewed. If after all is over the mother suffers from a nervous chill, as often happens, she need not be alarmed. A hot-water bag at her feet, a glass of hot milk, and a blanket will soon warm her, and she will usually be ready to fall asleep to rest after the fatigue of the labor.

Care of the Mother.—There is always a considerable discharge of blood at first; but if for any reason there is an excessive amount of bleeding and the doctor has not come, an attempt must be made to stop it without delay. The attendant, sitting on the bed, facing the foot of the bed, with the hands on the abdomen, will feel for the womb, which will be a rather large, soft mass just under the navel, and will massage it gently, passing the thumb over the front of the organ, while the fingers surround it. These manipulations will cause the fibers of the muscles to contract and will help to stop the bleeding. Cracked ice, wrapped in a towel, may be laid over the uterus to help in the contractions, and sometimes putting the baby to breast will serve the same purpose.

When the doctor comes, he will repair any laceration that may have occurred.

Care of the Baby

The first thing to do for a new-born baby after it has cried lustily, showing that the lungs and heart have begun to act, is to tie the navel cord as already described. It is necessary to examine this ligature at intervals to make sure that there is no bleeding from the navel.

Care of the Eyes.—The eyes should next claim attention. They should be wiped free from the mucus and very gently sponged with bits of cotton dipped in boracic acid solution, wiping from the nose outward without opening the lids. A baby's eyes may become infected during the passage through the birth canal, and this infection sometimes leads to blindness, ophthalmia neonatorum, as it is called. To prevent this a few drops of an antiseptic solution, which the doctor or the nurse will provide, should be put in the baby's eyes as soon as they have been sponged, using a medicine dropper. This is a perfectly simple, harmless treatment, and is practically sure to preserve the sight. It is a wise precaution, therefore, to take in all cases. If, however, this is not done and symptoms of the disease appear, namely, redness, swelling of the lids, and a discharge from beneath them, the mother should not lose an hour in placing the baby in the hands of the most competent physician she can find. The eyes may be saved by a few hours' care at this time; neglect may doom the baby to lifelong blindness or at best to impaired vision.

In bathing the eyes always use different pieces of cotton or gauze for each eye, and in case of any infection use the greatest care not to infect one eye from the other. This infection may be carried by the fingers, the towels, or the cotton used in treating an infected eye, and is extremely contagious.

The First Bath.—The new-born baby's skin is covered with a cheeselike substance, which is the more readily removed if it is first covered with olive-oil or vaseline. The baby may then be wrapped warmly and put in a safe place until the mother has been attended to, after which the baby may be bathed. The water should

be of a temperature that feels comfortable to the bare elbow of the nurse. After the skin is thoroughly but very gently washed, using Castile soap, and taking every care not to get soap into the eyes, it should be patted dry with warm and very soft old towels. The navel dressing is made by covering it with a pad of sterile gauze, which has a hole for the cord, holding it in place with the flannel binder already prepared. Unless this dressing becomes wet or soiled it is not necessary to change it for a few days. The stump of the cord will usually shrivel and fall off within a week. After this happens the navel will be dressed in the same manner until it is entirely healed.

The baby's first toilet consists of first the flannel binder, then the shirt, preferably of wool and silk, a soft diaper, then the Gertrude skirt of flannel, and finally a little wrapper of outing flannel buttoned up the front. All this involves considerable handling of the little, tender body, and the nurse should be as careful and efficient as possible, in order that the baby need not be tired any more than is unavoidable.

Within 6 to 12 hours after delivery the mother will be sufficiently rested to give the baby the breast. If in the meantime the baby is restless, it may be given a few drops of warm water from a medicine dropper. The water should contain neither sugar nor any sort of medicine. At this period four nursings in 24 hours will be enough. An infant should sleep 20 out of the 24 hours until it is about 2 months old.

Lying-in Period

This is the name given to the time immediately following child-birth, which is occupied with the establishment of maternal nursing and the restoration of the special organs to the condition they were in before pregnancy. The involution of the uterus is the most important of these changes. By this process the uterus dwindles in weight from about 2 pounds to about 2 ounces and sinks down in the pelvic cavity until it resumes its original position. The length of time required for these changes to take place is shorter with nursing than with non-nursing mothers, but the process of complete involution commonly takes five or six weeks. If lacerations or other accidents of child-birth have occurred, the time may be longer.

The mother, no matter how well she may feel, needs a certain time of rest before she is capable of taking up her ordinary occupations and pleasures, which, if indulged in too early, may result in retarding or stopping altogether the natural restorative processes. Most women are able to sit up in a chair for an hour on the tenth day; they may be walking about the room usually after two weeks, and by the end of a month be able to go up and down stairs; but in all cases it is well for the mother to refrain from full activity for six weeks. At the end of this period the doctor should make a final examination to be sure that all is as it should be, and direct the proper treatment in case he finds anything is amiss.

The lochia, as the characteristic vaginal discharge of this period is called, is at first pure blood, but later becomes quite brown in color. The discharge will last for some time after the birth of the child, and is apt to increase somewhat as the mother gets about. This is an additional reason for prolonging the period of quiet and rest after childbirth. While women do not usually menstruate during lactation, hospital records show that this occurs in about one-third of the nursing mothers within two months. If this happens, it will be a wise precaution to rest in bed when the time comes for the next period. This may retard the reappearance of the flow and protect against another conception. If pregnancy should, however, recur, the baby will have to be weaned.

NAMING THE BABY

BY

CECILIA FARWELL

AFTER the little stranger arrives, comes the question of announcing the wonderful event to relatives and friends. The mother, looking forward for so many months to this new joy in the household, will have thought of many plans for making this announcement, and in some quiet hour will have made a list of those nearest and dearest who she knows will rejoice with her in this new joy. She will want to make this announcement in a way that shall be an expression of her appreciation of their love for her. The picture postcard hardly meets her thought, how-

ever gorgeous may be its decoration. Indeed, the simpler the form of this announcement the more beautiful it is; for the wonder event, and the thought of the friends to whom she would tell of it, is enough. Let her then take one of her own formal visiting cards, and with a tiny bit of white ribbon attach another, smaller card, on which is to be written baby's name and the date of birth. This is one of the privileges of the father, and he may pay special courtesy to friends and relatives by writing the child's name himself, rather than using a formal engraved card.

For Whom Shall the Baby Be Named?

The question of finding a name for the little stranger is by no means an unimportant one. Often the mother has made a selection long before the wonder day comes. The beloved parent, the sister or brother, whose companionship has meant so much through the years, the dear friend, or, best of all, the one man in the world, the child's father—to each of these she would pay loving tribute. Grandmother's heart always goes out to the baby who carries her name, or the name of the dear grandfather who maybe has gone on into the Far Country. The expectant mother, dreaming her dreams, thinks of all of these; deep in her heart she hopes that the little one will be a daughter, to be a companion; or maybe she dreams of a son, who will have his father's eyes, upon whose arms she may some day lean, when her own hair is white. So in her dreams she "names the baby" over and over again.

In the evening, sitting by the open fire, their hands clasped tightly, she and the expectant father—for I like to apply that beautiful thought to him too, the waiting, the planning, the dreaming of "expectancy"—sit together with hearts awed by the wonder that is to come to them, and they talk over, almost in whispers, the baby's name. And so when the time comes to write the little card, the father knows the young mother's wishes, and his hand trembles the least little bit when, for the first time, he writes "Mary," or maybe "John."

Family Names

However much we may love those who are near and dear to us, it is a mistake to give to the little boy or girl a name which they may some day regret having to carry through the world, because it is a family name or a fancy of the parent. If grandfather was so unfortunate as to have been started into the world with a name like Jeremiah, is it quite fair to give to the little rosy boy in mother's arms this name to carry for three-score years and ten? And grandmother herself, who has been burdened all her life with Jermina, however much she might be pleased with the thought of her in this first glad hour, could not wish the flower-like little girl to be punished as she was by that awful name. Wherever it is possible to give to the child a name which has honorable family associations, it is well to do so. A name carries with it certain responsibilities, and the boy who is Henry 3d may some day, in a crisis, remember that his grandfather and his father gave him a name clean and unstained, and that it is his to keep it so.

Names with a Meaning

There is another thought which may come to the mother who feels the touch of the tiny body lying in the hollow of her arm. She may remember that Helen means Light, and the thought will bring a thrill to her heart; that Lillian is Fair and Pure, and Mabel is My Beautiful One; Louis is a Noble Spirit, Charles a Brave Warrior, and Elizabeth a Worshipper of God.

Looking into the eyes of the little one whose life is God's precious gift to her, she sees far down into the years and hopes, and dreams, and fears for what those years will bring, and she may long to give to her darling a name which will be as a talisman to guard from harm and wrong and evil.

And so the baby is given its name. And some day, in a moment of thoughtfulness, the young man just starting to college, or the young woman signing her first love-letter, thinks, "I am glad that my parents gave me a good name, a dignified name, one which I am glad to hear and proud to write."

The following names with their meanings may help in finding a name for the baby:

Adeline—Of noble birth.
Amelia—Busy, energetic.
Agnes—Pure or sacred.
Alice—Noble cheer.
Amy—Beloved.
Anne—Grace.
Beatrice—Making happy.
Charlotte—Noble-spirited.
Dorothea—Gift of God.
Edith—Rich gift.
Ethel—Noble.
Grace—Grace.
Ida—Happy.
Irene—Peace.
Jane—Lord's grace.
Millicent—Strength.

Virginia—Virgin, pure.
Albert—Nobly bright.
Alexander—Helper of men.
Andrew—Man.
Anthony—Inestimable or worthy.
Arnold—Eagle-power.
Arthur—High.
Charles—Manly, noble-spirited.
David—Beloved.
Donald—Proud chief.
Edwin—Valuable friend.
Francis—Frank, free.
Harold—Warrior strong.
Herbert—Glory of the army.
Hugh—Mind.
Raymond—Wise protection.
Richard—Stern ruler.
Robert—Bright fame.
William—Helmet of resolution.

Registration of the Birth of the Baby

Something for the Father to do.—Make sure that the birth of your baby is duly recorded. In some States there is no provision for the registration of births, but this is a most important thing to have done, and if there is no provision for it have the birth entered in the family records or the church records so that there will be no difficulty in proving the exact date.

A story is told of a young woman who, in order to get a farm that was willed to her, had to prove the date of her birth. She finally succeeded, but only by proving that she was born on the same day that a high-bred calf was born in her father's barn! The calf had a birth certificate, but the girl had none!

In those States where the registration of births is provided for by law the usual provision is that the physician shall report and register all births which come within his practice. The parents, however, should not leave so important and personal a matter to the physician, but should make report in person or by letter at the office of the registrar. This record may some day serve to protect the personal or property rights of the child, and it is unfair and unjust to him to neglect it.

THE NURSING MOTHER

BY

MRS. MAX WEST AND CECILIA FARWELL

To nurse her own baby is the first duty of every mother. Every normal mother *wants* to nurse her baby. In spite of the much writing and talking about the bottle-fed babies, I have never known a mother who did not give her baby the bottle with sincere regret, and only because she felt that was the only thing that she could do. The woman who for many reasons except the one that it is impossible gives up nursing her baby is not normal, and needs moral and spiritual education.

"It is often said that the lack of maternal instinct in the modern woman is responsible for the large proportion of bottle-fed babies," says Mrs. Anna S. Richardson, of the Better Babies movement. "I think that this charge against my sex is undeserved. Women are far more apt to stop nursing their babies as the result of an ailment in themselves which they do not know how to cure or control, or because they accept the word of those who are not in a position to give medical advice, or even common-sense suggestions." It should be part of the education of every growing girl to know how to conserve and strengthen in herself those physical qualities which will enable her to nurse her children when motherhood shall come to her. She should also know that by a mistake in the selection of the father of her children she may make nursing or even motherhood impossible.

"If you love your baby, nurse it," is the message of Miss Julia Lathrop, of the Children's Bureau of the United States Department of Labor. "Mother's milk is Nature's food, and no other food is as good. The chances of your baby's living are nine times greater on breast milk than on cow's milk, or any other kind of food."

Mother's Milk the One Perfect Food for the Baby

Mother's milk is composed of 87 parts of water and 13 parts of solids, these latter being fats, sugar, proteids, and salts. The cream of the milk contains its fat; the lactose is its sugar; and the proteid is the curd of the milk. All these are essential to the proper nourishment of the child. The fat is needed to build up the fatty

tissues of the body and to produce body heat and energy; the sugar serves similar purposes; the proteids are of very great importance, their use being to build up the cells which compose the blood, the muscles, and all the tissues of the body; the salts are needed chiefly for the bones and the blood; while the water holds the food in a condition of solution or minute subdivision, so that it may be digested and assimilated, and helps the work of the excretory organs. Although it is quite possible to modify cow's milk in such a way that the proportions of fat, sugar, proteid, and water are not widely different from those in human milk, the latter has other qualities which cannot be reproduced by any imitation, no matter how cunningly devised. No one knows in just what state the milk goes from the breast of the mother into the stomach of the babe, but such milk is perfectly adapted to the purpose which it serves. *Mother's milk is the one perfect infant food.*

Nursing Easier than Any Other Way

It behooves all mothers who desire healthy and happy babies to nurse them. Not only does the mother's milk give the baby the help he must have in the complicated and difficult task of growing, but it renders him to a considerable extent immune to illness of many sorts, and greatly increases his chances for life. Besides, it is easier to nurse the baby than to feed him otherwise. To make bottle-feeding safe requires scrupulous and constant care. To secure a supply of pure milk; to keep it at the proper temperature; to have it properly prepared for the baby's use; to change the composition of the milk in accordance with the baby's changing needs; to keep all the utensils used in the care and preparation of the baby's feedings absolutely clean; to have the bottles and nipples scrubbed and sterilized constantly—all this entails upon the mother unremitting attention—attention which is sometimes entrusted to the responsibility of ignorant and careless nurse-maids—even when the baby is thriving. But when, as is often the case, the baby does not thrive, the difficulties of artificial feeding are greatly multiplied. Too often do we see babies whose first six or twelve months have been passed in a series of unfortunate feeding experiments, with the result that the growth of organs and general development have been appreciably retarded.

A Little Story to Illustrate This Truth

"I wish you would tell me, doctor," said a mother, "why it is that Marjory *catches everything?* I am just as careful of her as I can be. Look at those McGinty children; they play in the dirt from morning till night and are never sick! Even when every child in the neighborhood had measles so dreadfully, those children were all out in less than a week. Would it be better for me to just turn Marjory loose like that?"

"If you did Marjory would die."

"But why?"

"The reason lies back four years. Every one of Mrs. McGinty's children were breast-fed babies."

The mother flushed. She remembered that winter after Marjory was born, when she had been so anxious to get out again, and was so unwilling to tie herself to nursing hours. The nurse had been capable—expensive enough, goodness knows! And the mother felt that she had a right to "live her own life." The flush deepened as she looked at the frail, delicate little girl.

"But do you mean to tell me," she argued, "that *just that* counts more than all of the care and attention that we have given Marjory?"

"I mean to tell you that *'just that'* counts more than anything else in the world. Those children were started right; no experiments were tried on them. Do you remember how many foods we gave Marjory before we found just the right one?"

"But when we did find it, it agreed with her splendidly."

"It seemed to. It was the best that I could do," replied the physician, grimly.

It is true, no doubt, that not all mothers can nurse their babies, even when they would gladly do so. But the cases in which maternal nursing is really impossible are very rare. It is the manifest duty of every doctor, nurse, or other attendant upon a mother in confinement to insist that the mother shall exercise this function; to do everything possible to establish lactation; to promote it and even to bring it back, if for any reason the breasts have ceased to secrete.

Before the Milk Comes

After the birth of the child from 48 to 60 hours elapse before the mother's milk "comes." During this period the baby needs no food, but it may be given a few drops of slightly warmed water occasionally and should be put to breast every six hours, beginning some hours after birth, when the mother has somewhat recovered from the fatigue of labor. The first secretion of the breasts, called the colostrum, serves some useful purpose to the baby, but the principal value of this early nursing is in the training

it gives both mother and babe in the habit of nursing. After the milk comes there may be an excessive supply for a few days, until the relation between supply and demand is established. If an overdistention of the breasts occurs, the excess milk may be removed by the use of a breast pump, if it seems absolutely necessary, or by gentle massage of the breast, using warm oil on the hands. But since all manipulation of the breast only stimulates the gland to greater activity, it is better to try to relieve the discomfort in other ways. A bandage, properly made, is valuable, but requires professional skill for its successful use. Hot or cold applications, according to the weather and the patient's preference, may help. Only the gentlest methods can be employed, and usually nature will soon take care of the excess of milk.

The greatest care must be exercised to keep the nipples in good condition. They should be washed with boric acid or clean water after each nursing, thoroughly dried, and, in general, should be kept as clean and dry as possible. They may crack as a result of the efforts of the baby to nurse, and if this happens a nipple shield, either rubber or glass, should be used until the abrasions are healed, for if the baby's mouth comes into contact with the sore nipple, infection may result which may lead to a breast abscess—a very painful affliction, and one which often requires surgical treatment. Cracked nipples are caused also by allowing the baby to nurse too long at a time or at irregular intervals, so that the nipples are wet and irritated much of the time.

Importance of Regularity in Nursing

From the first nursing an effort must be made to secure regularity in the nursing of the baby. Before the milk comes the baby may have the breast about once in six hours; after that the interval may be made once in two, or once in three or four hours, as the case demands, or as the doctor directs. The tendency is to lengthen the intervals between nursings.

Dr. L. Emmett Holt's Schedule for Nursing during the First Year

Periods	Nursings in 24 hours	Intervals by day	Night nursings (10 P. M. to 6 A. M.)
		Hours	
1st and 2nd day.....	4	6	1
3rd day to 4 months ..	7	3	1
4 to 7 months.....	6	3	0
7 to 12 months.....	5	4	0

The question as to whether the baby is getting enough food may be determined by weighing it at the end of every week or oftener. At first there will probably be a slight loss; after that there should be a steady gain in weight.

If the baby cries a good deal or does not gain properly, it may be that the mother's milk is deficient in some particular, and it will be well to confer with a physician. The mother should never give up the attempt to nurse the baby, however, unless under exceptional circumstances and with competent advice. Even the smallest amount of maternal milk is worth while to the baby, and if only one or two nursings a day can be had, it is much better than nothing, especially through the first three months, which is far the most critical period of life. The attempt to nurse the baby will stimulate the flow of milk and this, with proper care of the mother's diet and general health, will often serve to establish this function, even when it seems almost hopeless. Meanwhile, the baby's food must be supplemented by cow's milk properly modified.

Diet for a Nursing Mother

The diet for a nursing mother will, under ordinary circumstances, be the same as that prescribed during pregnancy; that is, it must be nutritious, laxative, and appetizing. She may follow her own wishes as to the choice of her food. The old idea that acid fruits and vegetables give the baby colic is probably not true, since all acids are changed in the process of the mother's digestion. However, if they, or any other food or drink, disturb the mother's digestion, this may have an unfavorable effect upon the milk. It is necessary, therefore, to watch the diet very carefully and eliminate all articles that show themselves to be unsuited to the mother. If, in addition, a woman eats slowly, chews her food thoroughly, and, above all, refrains from worry, there will be no reason to suppose that the maternal milk will not agree with the baby. Constipation should be carefully guarded against.

If the milk is scanty, the need for a more generous diet is indicated. Plenty of fresh milk, eggs, fresh vegetables, ripe fruit, and other plain, simple food are required. If the appetite is capricious, it will be well to eat lightly five or six times a day. It is necessary to reiterate the importance of a quiet state of mind for all nursing mothers.

Importance of Mental Control

There is no one thing which more certainly and completely interferes with the secretion of

the milk than any over-wrought, nervous condition, and although in the presence of grave causes for worry or sorrow, it seems sometimes almost impossible to be self-controlled, the thought that the little life, perhaps, is dependent upon it will give the mother strength, she should have pleasant exercise, out-of-door life, pleasure, cheerful society, and be surrounded as far as possible with the things that interest her. She should strive to have at least eight hours of sleep at night, and, if her rest is broken then, to make it up during the day when the baby sleeps. Plenty of fresh air and sunshine are always desirable.

There is usually a period after the nurse has gone and the mother is left to herself when the weariness resulting from her own somewhat feeble health, broken sleep, and the worry consequent upon taking care of the baby alone causes the milk to diminish in quantity. It is at this time that many a mother concludes that the baby is starving and is very likely to become discouraged and give up nursing as hopeless. This is a great mistake. It is usually true that the strain of this period is relieved, day by day, as mother and babe gradually become adjusted; the mother's health revives, and slowly but certainly things will grow more comfortable, and with this will come the milk. So that if the mother will only strive to carry herself and the baby past this epoch, she will probably be able to nurse the baby quite successfully. Every possible means to this end should be tried before weaning is resorted to. The return of the menstrual periods is not a sufficient reason for weaning, but pregnancy demands it, as the mother's strength will not be sufficient for this additional strain.

THE NEW-BORN BABY

BY

WILLIAM BYRON FORBUSH

A NEW-BORN baby has little beauty that anybody should desire him. A baby regarded as "handsome" from the doctor's point of view can be recognized as such by a layman only through an acquired sense of beauty or a sense of humor. Says Mrs. Marion Foster Washburne: "To unanointed eyes, what is he? Just a little red, squirming thing, with eyes shut for the most part, with tight-clenched fists, with a toothless, sucking mouth, a hairless head, much too large for his body,—an impudent little thing who makes the whole adult household stand around, and imposes his own laws upon every one, regardless of their preferences; a frail little thing, who has to be handled in ways so mysterious that the uninitiated flee from the attempt, and only one of millions and millions of others, just like himself!

"This to the unanointed. To the mother whose eyes have received the chrism from mighty Nature, he is one of the immortals, laid in her all-unworthy arms. She knows herself a responsible human being, with one of God's children lent to her—a child for whose body, mind and soul she is to render an account."

In comparison with the adult the most immediately noticeable points are the exaggerated head and abdomen, the shorter legs and the unfinished nose and the shortened neck.

His Absolute Helplessness

Retaining so many resemblances to lower forms of creation, indicating, as in the plates of the skull, a certain imperfection, and unable, as we shall learn, to see, to hear or to relate himself to the world into which he has just entered, the new-born baby appears to be considerably unfinished. "Indeed," as Dr. James Sully so truly says, "he resembles for all the world a public building which has to be opened by a given day, and is found, when the day arrives, to be in a humiliating state of incompleteness."

The complete helplessness of a new-born child has been described as follows: "Unable to stand, much less to wander in search of food, nearly deaf, all but blind, well nigh indiscriminating as to the nature of what is presented to its mouth, utterly unable to keep itself clean, yet highly susceptible to the effects of dirt, able to indicate its needs only by alternately turning its head, open-mouthed, from side to side, and then crying; possessed of an almost ludicrously hypersensitive interior, unable to fast for more than two or three hours, yet having the most precise and complicated dietetic requirement; needing the most carefully maintained warmth, easily injured by draughts—where is to be found a more complete picture of helpless dependence?"

It is this helplessness which has been the immemorial appeal to mother-love, to which the innate chivalry of the mother-heart has always responded. It is this response which carries baby through the crisis of its first hours of life. It is the very attention of the mother to them which first stimulates the unfolding of the marvelous development of the body, the senses and the mind.

The Baby's Movements

The first thing that one notices about a new-born baby is its movements. All these are reflex; that is, those which are "set off by some outside action on the senses, as a gun is set off by a touch on the trigger," and not by any inner impulse.

The first of these movements is a cry. This first cry, unmistakably monotonous and dismal, is apparently a response to a certain measure of discomfort felt by this tiny "wrecked seaman" on reaching shore. This is probably occasioned by a number of causes: the first experience of breathing, the first effect of light, the jar of vibrations, and the possible pain of the first contact of the skin with the air, the hands of the nurse and the touch of clothing. None of the reflective movements can be restrained by the infant himself. It is amusing to note that a new-born babe sneezes, coughs and chokes, quite unconsciously to itself and without control and without discomfort.

From the first the mother will notice many spontaneous and random movements of almost every part of the body. These reflex movements are caused from internal conditions and changes, and consequent outflow of energy. They tend toward the pre-natal position.

The Baby's Senses

The first of the senses which seems to awake is that of touch. This might be called the parent of all the other senses. It is perhaps earliest evoked and is most active because the nerve-ends that feel are all over the body, while those of sight and hearing are local. The action of this sense is at first reflex. It seems combined with a muscle-sense. The infant immediately clasps the finger which is brought into the hollow of its tiny hand. The power of grasping in a new-born child seems almost miraculous and harks back to some remote ancestral facility. One of the most interesting phenomena of a new-born child is the extraordinary power of its hands to clasp and of its arms to sustain its own weight. Dr. Louis Robinson experimented with some sixty babies in the first hours of their life, and found that they would clasp their hands about a slender rod and swing from it like athletes.

The action of sucking is at first reflex, and is aroused by placing any object, the nipple or a pencil, within the baby's lips. But it immediately becomes instinctive, and is used as a summons for food. These two acts of sucking and clasping already suggest what are to become the first two means of the infant's education, as the sensitive nerve-ends of the lips, the tongue and the fingers bring the child into contact with its new world. As soon as these actions indicate that they arise from any inner impulse we call them instinctive or impulsive.

The new-born baby is practically blind, not because he has not the organs of eyesight, but because he cannot as yet see things, in the proper sense of the word. The earliest sense of sight seems to be the recognition of the difference between light and darkness. Within an hour after birth, Miss Milicent Washburn Shinn reports, a baby which she was studying stopped crying when its face was exposed to gentle light. Several report the turning of the head toward the light during the first week. Babies seem conscious very early of any large, dark mass that interrupts the light. The eyes, however, at the beginning are attracted to nothing and fixed on nothing. They do not wink, there is no change of focus, and they do not always even move in unison. As Miss Shinn says, "Some extraordinary and alarming contortions result." A baby very early shows discomfort at too much light.

Hearing—Feeling—Hunger—Thirst

A baby hears nothing within the first hours. The middle ear is stopped up with fluid. It seems that babies are more responsive to jars than to noises, and they have been known to make startled movements at sudden jars the first day. The senses of taste and smell are present from the beginning, but can be excited only by strong artificial stimuli. What we used to call "the sense of feeling" is now regarded, not as a single sense, but as a group, called "the skin senses." The baby from the first is aware when he is touched or patted, and is very sensitive to cold touches, but not to surface pains. While the skin is not so sensitive as the lips, the nostrils and the finger-tips, it responds to a general sense of comfort or discomfort. Another sense is that of equilibrium or motion. Babies have been known, even from the first, to make convulsive movements when held in a position which implied that they might be dropped.

The senses of hunger and thirst are at the

beginning practically one, and are apparent from the first. There is soon a marked difference in tone between the cry caused by pain and that occasioned by hunger. The sense of thirst is very active. The baby's body is largely composed of water, and the evaporation from the loose texture of the skin is very great. Many of the distresses of a child, which seem to the parent to indicate colic or natural depravity, are satisfied by a spoonful of cold water.

There are, no doubt, certain conditions which are composite of several senses. A baby sometimes feels discomfort, caused by the pressure of clothes and the constraint in the muscles and circulation, caused by being kept in a single position too long. Since a baby cannot move a limb at will, it is necessary for relief that these changes of position be produced by another.

The Baby's Consciousness

Miss Shinn sums up all that we have been saying, as follows:

"Here is the conception I gathered of the dim life on which the little creature entered at birth. She took in with a dull comfort the gentle light that fell on her eyes, seeing without any sort of attention or comprehension the moving blurs of darkness that varied it. She felt motions and changes; she felt the action of her own muscles; and, after the first three or four days, disagreeable shocks of sound now and then broke through the silence, or, perhaps, through an unnoticed jumble of faint noises. She felt touches on her body from time to time, but without the least sense of the place of the touch; and steady slight sensations of touch from her clothes, from arms that held her, from cushions on which she lay, poured in on her.

"From time to time sensations of hunger, thirst, and once or twice of pain, made themselves felt through all the others and mounted till they became distressing; from time to time a feeling of heightened comfort flowed over her, as hunger and thirst were satisfied, or release from clothes, and the effect of the bath and rubbing on her circulation increased the net sense of well-being. She felt slight and unlocated discomforts from fatigue in one position, quickly relieved by the watchful nurse. For the rest, she lay empty-minded, neither consciously comfortable nor uncomfortable, yet on the whole pervaded with a dull sense of well-being. Of the people about her, of her mother's face, of her own existence, of desire or fear, she knew nothing.

"Yet this dim dream was flecked all through with the beginnings of later comparison and choice. The light was varied with dark; the feelings of passive motion, of muscular action, of touch, of sound, were all unlike; the discomforts of hunger, of pain, of fatigue, were different discomforts. The baby began from the first moment to accumulate varied experience, which before long would awaken attention, interest, discrimination and vivid life."

"A Purely Spinal Being"

A newborn child has been called "a purely spinal being." It is somewhat distressing to many mothers to recognize that their babies are at first not individuals, but automatons. It is not even comforting to remember that they are living and conscious automatons. "Yet," as Miss Shinn says, "that makes all the difference in the world. If mothers would only reflect how little developed a baby's mind is at a year old, after all the progress of twelve months, they would see that they rate the mental starting point altogether too high, and they miss thus the whole drama of the swift and lovely unfolding of the soul from its invisible germ—a drama that sometimes fairly catches one's breath in the throat with excitement and wonder."

In the normal infant no senses or potentialities are lacking; and he is not a merely inert mass, entirely the object of stimuli. He is responsive, and in that responsiveness exists our ability to communicate with him and his whole capability of education. The human presence of a mother, touching, handling, caressing, protecting, stimulating, guiding, loving—this is the link between the helplessness of the baby and all his future. It is the divine task of the mother to earn contact between herself and the little mite who is so far unconscious of her very being. For the baby now, as Mrs. Browning so wonderfully says:

"Lifted up and separated on the hand of God he lies,
In a sweetness beyond touching, held in cloistral sanctities."

CARING FOR THE CHILDREN AT NIGHT

BY

CHRISTINE TERHUNE HERRICK

EVEN before I put the question, "Who shall take care of the children at night?" I know that the answers will be decided and show no tinge of uncertainty. I also know that they will be of at least two classes.

Those which belong to the first division will run something like this: "Of course, it's the mother's business to look after the children at night! The idea of putting it off on a man who has been at work all day and comes home tired and needs all the rest he can get to be able to go out the next morning and try to earn money to support his family! A pretty state of affairs it would be if he had to walk the floor with the baby instead of getting his sleep!"

The representatives of Class Number Two will be just as emphatic. "Please tell me why a man shouldn't take his share of looking after the baby at night! The mother has had charge of it all day and has had her house to care for besides, and has probably worked just as hard as her husband without the variety he has had. If he's any sort of a man he will insist upon her going to bed like a Christian and giving him a chance at the baby. It's his child as well as hers!"

The Author Declares Her Agreement with Division One

I wish I were near enough to some of you mothers to have you tell me face to face which side you are on! For you would undoubtedly have good reasons for your position and I should like to talk the matter over with you. Since we can't achieve this, I will say boldly, at the risk of being considered terribly reactionary and behind the times, that my own opinion coincides with those expressed in the first answer given above.

That is, I agree with that under what might be called the everyday and normal conditions. As a matter of course, if a woman is a wage-earner whose returns equal or exceed those of her husband, if her work is as exacting as his and as important to the welfare of the family, their circumstances are so much the same that there seems to be no reason why he should not assume his part of the care of their joint baby by night as well as by day. Similarly, if the wife is taken ill, or if something unusual has made a severe drain upon her health or strength, the husband may and should volunteer to relieve her in her charge of the child.

In the Ordinary Household the Wife's First Duty is toward Her Child's Welfare

But these conditions are exceptional and should be dealt with accordingly. When I express myself as feeling that it is "up to" the wife to look after the baby at night I have in mind the ordinary household, no matter where it is or how it is run. It may be the home where the wife does all the work, it may be that in which one or more maids are employed; it may be the mother has no interests beyond those of her family or it may be she is engaged in philanthropic occupations or in pursuit of bridge or of fashion. Whatever her surroundings or her aims, one fact is indisputable—that her first duty is to her child's welfare and that part of this duty consists in taking care of it at night and letting her husband get the rest needful to enable him to accomplish his duty of providing for his family.

Don't think, merely because I state this so glibly, that I underrate the self-sacrifice involved in carrying out such a plan of life. One thing that many persons fail to understand is that you do not undergo a change in your entire nature when you become a mother. Modified you may be, but not transformed. You do not cease to wish for the things you were fond of before the baby came. If you relished social enjoyments, you still care for them; if you loved books or cards or philanthropy or outdoor exercise or anything else, the chances are that you will continue your affection for it after the cradle is occupied, and that you will occasionally long to be able to forget nursery cares and throw yourself into your former occupations.

Those Blessed "Normal" Babies—and the Other Variety

Sometimes you can do this. Sometimes the employment or the pleasure is one that you can enjoy without leaving your home or neglecting it; sometimes the baby is one of those blessed infants who eats and goes to sleep early in the

evening and is not heard from again until the next morning. Happy are you among women when you draw such a prize! The mothers whose children have always been like this, have a spice of contempt mixed with their pity when they hear of the trials of the women whose babies are not what these fortunate matrons call "normal."

Those of us who have had the other variety of infant, who have not known for months at a time what it means to have a night of unbroken sleep, who are familiar with the wearying round of taking up the baby and putting it down again, of heating the midnight and the three-o'clock-in-the-morning bottle, who have walked the floor until we were ready to drop with drowsiness—we are in a position to appreciate how hard it is to resist the temptation to rouse the tired-out husband and urge him to take his turn at the burden!

The Right Sort of Mother, Who "Stuck to Her Last" in Spite of Protests

"When you talk like that, you bring it all back to me," commented a woman with whom I compared notes on past trials. "My first baby was the 'normal' kind and I thought the second would be like it. He wasn't! I couldn't see that his health was any worse than that of the first, and he was certainly trained in the same way; but oh, the trouble he gave me! When I put him to bed in the evening he kept me running to him until I wore a path in the hall between my sitting-room and the nursery. After I went to bed myself I was never sure of an hour's rest. I used to wonder if there were really any people in the world who could sleep the whole night through, and pray with all my heart that the baby wouldn't wake. But he always did! I don't believe he ever slept two consecutive hours at a time until he was eighteen months old, and by that time I was very nearly a wreck."

"What did your husband do about it?" I asked with interest.

Her face softened.

"Bless his heart, I had to fight to keep him out of the room! When the baby was a couple of months old I said we found out for the first time what a spare bedroom was really meant for! I insisted upon his going in there to sleep, in spite of his protests. If he had had his way he would have kept the boy at least half of the night. But what kind of work could he have done next day? I told him his business was his job and the baby was mine, and we'd each of us stick to his last!"

That's the right sort of mother, and I don't doubt there are hundreds like her. I know a good many of them myself. Hear the opinion of one of them who had also had worries with her children.

Opinion of Another Mother Who Made Her Children Her Business

"When my two girls were babies they were so delicate that they were a ceaseless care," she told me. "I had been very fond of society and much interested in church work, but I found I had to give up everything outside. After I had tended babies all day and walked the floor with them most of the night I was in no state to do anything else. At first I resented the necessity of being an absolute stay-at-home, but after a while I thought it all out sensibly. If I had been a man and had undertaken an important business that promised big profits I wouldn't grudge any deprivation or labor to make it a success; and what business in the world pays as a child does? So I just gave myself up to the kiddies until they were healthy, sturdy little girls, and I don't believe there ever was an enterprise in the world that brought in such returns as I have had from them and do have every day of my life."

"Didn't your husband help?" I questioned.

"Certainly he did! He worked like a navvy all day and every day to make it possible for them to have everything they needed. He denied himself pleasures and recreations on their account and was happy in doing it."

"But didn't he ever take care of them at night?"

"He would have done it like a shot, but I wouldn't let him! His night sleep was one of his assets and I thought too much of his value as a worker to let him play the spendthrift with that!"

The Author Listens to Some Testimony from the Opposition, and Makes Her Comments on It

I wish I could know how far you agree with these testimonies. I am afraid some of you would advance a sharp opposition. I heard something of the kind the other day.

"Of course I make my husband help look after the baby at night! He always gets up and heats her bottle for her, and if she is restless he takes his turn at holding her or walking with her. He is a big, strapping man and there's no sense in my wearing myself out when he is there to do his part of the work!"

As in the other cases I have instanced I ventured an inquiry:

"Doesn't he find it interferes with his business next day to be up at night?"

"What if it does? It is no harder for him than it is for me! I sometimes laugh at him when he falls asleep over his paper the moment he sits down after dinner, and he tells me he often finds himself dozing in the office—but then I am usually so dead w'th sleep myself in the afternoons that I am obliged to lie down for an hour or so. No, madam! I don't believe in letting the father have too easy a time. He ought to do his share in looking after the kids at night!"

I did not pursue the matter any further, but I thought hard enough to make up for my reticence. I wonder how much that husband's progress in business is retarded by the fatigue he cannot throw off in his office and what concrete gain the wife wins from the sleep she has at his expense. I ponder on the spirit that evidently animates her and makes her put her personal ease ahead of her husband's comfort and consequent usefulness; and I wish I could know how far that same spirit pervades her life during the waking hours and how it affects the children she bears and trains. To me it seems that she is possessed of a selfishness which must make its mark on her whole character and on those in her home—husband and children alike.

Do Not Accept His Unselfishness at the Price of His Fatigue

I prefer to believe that most wives and mothers do not need to have the law laid down to them as to the consideration they should show the men and children whose health and happiness are in their charge. I do not think it is necessary to point out to most of you that it is to your own interest to spare your husband domestic work and care that will impair his ability to make the best of his business, that you are injuring yourself and your children when you let him lose his sleep and go out in the morning tired and stale instead of fresh and energetic. I have an idea you are intelligent enough to recognize the fact, that while you may possibly be able to snatch in the day a five-minutes' nap that will brace you for your duties, such an indulgence is practically out of the question for him, and that even his willingness to get up at night and tend the baby is no excuse for your accepting his unselfishness at the price of the fatigue he endures for your sake.

Of course, there are selfish husbands as well as selfish wives. I have known of more than one who never earned a penny, while the wife bore the burden of supporting the family as well as of taking care of them, who would no more have offered to spare her a night's weariness by looking after the baby than he would have denied himself the liquor and tobacco for which her labor paid. I have also known strong, healthy men who had light occupations that made little call upon them and who insisted upon peace and quiet at night while their delicate wives tended fretful children and wore themselves out in the process. I put them alongside of a man I knew who obliged his wife to rise from her bed at midnight or in the small hours to cook a hot meal for him because he couldn't sleep when his stomach was empty, and another whose wife had to read to him up to two or three o'clock in the morning, or until her voice had soothed him to slumber.

But such men are the exceptions, and so, to my mind, are the selfish, self-indulgent wives who demand as their right that their tired husbands shall take care of restless children when the mothers are in good enough health to be able to assume the charge themselves.

Women, Says the Author, May Be Both Bread-Winners and Bread-Makers, but Bread-Winning is Sufficient Job for the Man

We must all recognize that few men can for an indefinite period hold down two jobs and do it successfully. If they do they pay a disproportionate price for it. Women we constantly see who are veritable Pooh-Bahs in the different offices they fill. Don't you know those who are both bread-winners and bread-makers—who work to support their children, and who at the same time keep the home and bring up the children? I do use a slang phrase, "the woods are full of them."

"But don't they pay the price, too?" somebody may ask.

Surely they do, but not in just the same way. The woman pays in impaired nerves, in the increase of morbidness and depression, in discouragement, in weariness of life—but she keeps on working! Sometimes her earning powers are diminished, but as a rule she is able to stick to her job as long as she is needed and generally to make as good money at the end as she did at the beginning.

With a man it is another story. He is differently constituted from a woman. Some men are able to work on nerve when other strength is gone; but as a rule a man cannot put his best energies into his business or profession all day and take care of a baby even part of the night, and do both as a steady thing, without suffering

for it and showing the injury by a lessening of his working powers.

I don't pretend to find a reason for this, unless it may be the character of a woman's ordinary work is so varied that she is able to go from one thing to another without the shock of change a man would feel in like circumstances. Perhaps men take money-earning harder than women, from their nature or from their habits. I cannot undertake to explain, but I know the conditions are as I have described them, and you women who read this know it, too; and count upon it in your work.

Don't Blame Your Husband If He Doesn't Comprehend—The Maternal Attitude

"But I want my husband to be willing to help me!" pleads a young mother. "I would like to have him offer to look after the baby at night even if I refused it!"

Of course you would! I understand that perfectly, but that is because I am a woman. He doesn't possess that advantage, so don't blame him if he fails to comprehend!

"I supposed you would ask me to take the baby if you wanted me to do it," I heard a man say to his wife once when she had, after many wakeful nights, collapsed and the doctor had been called in.

"I waited for you to offer to do it," she faltered.

"It never occurred to me," he said, simply.

Yet he was a devoted husband, and would cheerfully have made any sacrifice had it been suggested to him.

If your husband is of the rare and adorable variety that offers to take charge of the child at night, thank heaven for having given you such a man and decline the offer! Should your health be unequal to the strain of both night and day work it will probably pay better in the long run for someone to be hired to spare you than for him to give his strength to the task. That is a problem for circumstances to solve. The point I wish to emphasize in this connection is that you are neither to feel aggrieved if your husband doesn't claim the right to share in the night care of the child nor permit him to lose his sleep if he pleads his desire to act as assistant-nurse. We women all take more or less of a maternal stand towards our husbands and this is one of the many times when you must say to him, as you do to your children: "Mother knows best!"

If you have made the mistake of asking your husband to look after the child at night and he has refused, try to consider the matter reasonably. Naturally, you wish that he had permitted you to have the grace of protecting his rest, but if he hasn't, don't make too much of a personal injury of it. He might have been gracious enough to tell you reasonably why he felt his sleep was of such importance that he was not justified in foregoing it even to spare you—but there are men who don't see things in that way and he may be one of them. However this may be, the fact is unchanged which I have already repeated—that he cannot do his best for you and the kiddies when deprived of the proper amount of slumber and the tr..th that it is for you and the kiddies that he works may help you to condone the ungraciousness.

Mothers, Do Your Reasonable Best to Conserve Your Strength; Spare Yourself All You Can

Saying all this, I do not for an instant forget the fatigue that often bows you down to the ground. Much of it you cannot escape. But do you evade all you can of extra effort, of unnecessary employment, no matter whether this be business or pleasure? Do you spare yourself with the end always in view that your chief occupation just now is to bring up those children, that this is your profession, your trade, your vocation? Granted that you miss the unbroken sleep of girlhood or of childless days, yet is it not true that you could better bear the strain of wakeful nights if you burdened yourself less during the day? Think this over and see if there is not some way in which you can reduce the cares that send you to bed tired to the bone!

I have said that your husband must conserve his strength for the sake of you and the children. Lay this same precept to heart as regards yourself. The vegetable or animal care of the little ones is of great importance, but you are wofully short-sighted if you wear yourself out giving this and have no force in reserve to bestow upon your boys and girls later on when they will need you even more than now. Your health and vigor are of as great economic importance to the welfare of your household as are your husband's, although in a different way. Spare yourself all you can, with no thought that you are shirking your duty by so doing, any more than your husband is turning his back on his duty when he takes care of himself. You are partners in the business of making a home and of raising children, and no loss equals in responsibility and in dignity because your tasks are diverse.

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"A ROSEBUD GARDEN OF GIRLS"

2. Food

ARTIFICIAL FEEDING OF CHILDREN*

BY

CECILIA FARWELL

WITH all our knowledge of foods and careful experiments in infant feeding, we have never quite succeeded in making the artificial food for the baby in any form equal to nature's own. With the utmost provision and care, feeding a baby on anything but mother's milk may cause serious complications, and when blind, unguided experiments are made the results are appalling.

Cow's Milk the Best Substitute

When the physician is satisfied that it is impossible for the mother to nurse the baby, he will prescribe modifications of cow's milk according to the need of the child. Physicians concur that the food which gives the best results, failing the mother's milk, is the milk of some other animal. In this country cow's milk has been found the best for children. But cow's milk is a strong food, made for the digestive powers of the sturdy calf; human milk is a weak food, requiring comparatively little effort to digest, and in this regard conforms to the slight activities of the newborn child. It is necessary, therefore, in planning a substitute for mother's milk, to take many factors into consideration. Hours, or even days, may elapse, under present commercial conditions, before cow's milk reaches the mother. During this time it may become contaminated in one of a dozen ways, and be unfit for use.

Important Facts for Consideration

In selecting a food for the baby we take mother's milk as our standard. The food chosen should therefore be clean milk, procured from healthy cows under the best hygienic conditions. It should be handled as little as possible between the time of milking and the time it reaches the consumer. The mixed milk of a herd is much better than one cow's milk, because its composition is more constant. Human milk is sterile, but cow's milk swarms with micro-organisms, and must therefore be sterilized before use. The composition of the milk should be modified so as to render it to some extent like human milk. The food should be given at regular intervals and in definite amounts.

It is dangerous to give the baby of any age ordinary milk as it is delivered at the house. It is often dangerous even to give milk which comes from one's own cows; certainly so, unless they have been given the tuberculin test, and unless the greatest possible care is taken in the process of milking and in the handling of the milk after it comes into the house. The possibilities of infection are so great that it is safe to assume that even home milk should be pasteurized before use.

Pasteurization and Sterilization of Milk

The best milk (this does not mean the richest milk) is none too good. Get "certified" milk if possible. If you cannot obtain certified milk, get the cleanest and purest bottled milk you can find. Milk sold in bulk, or bottled from the can in stores, or by milkmen in their wagons, is likely to be stale and contaminated and not a proper food for the baby, even though it looks and tastes good. Unless the milk is above suspicion, danger should be prevented by proper pasteurization of the milk or by boiling or by sterilization.

Pasteurization.—Pasteurization means heating the milk to about 150° F. for 30 minutes and then rapidly cooling it. Milk for the baby should always be pasteurized in the feeding bottle. It may be done as follows: The milk should be mixed and poured into the clean feeding bottles, which should then be stopped with clean, non-absorbent cotton. It is then ready for pasteuriza-

*This article has been specially prepared from careful studies of the best authorities on this subject, including Dr. L. Emmett Holt, Professor of Diseases of Children in the College of Physicians and Surgeons, Columbia University, New York, and attending physician to the Babies' Hospital and Foundling Hospital, New York; Dr. James Stewart Fowler, physician to the Royal Hospital for Sick Children, Edinburgh, Scotland; Dr. Louis Fischer, attending physician to the Willard Parker and Riverside Hospitals, New York; Dr. S. Josephine Baker, director Bureau of Child Welfare, Department of Health, City of New York.

tion. While a number of satisfactory pasteurizers may be bought in the shops, a home-made pasteurizer can be easily constructed.

Take a wire basket that will hold all the nursing bottles for 24 hours and place this basket containing the bottles in a vessel of cold water filled to a point a little above the level of the milk. Heat the water and allow it to boil for five minutes. Then run cold water into the vessel until the milk is cooled to the temperature of the running water. The milk is then put into the ice chest, which should be not warmer than 50° F.

Sterilization.—By sterilization of milk is meant the process of rendering it germ free by boiling it on 3 successive days or by keeping it for 15 minutes under pressure at a temperature of 242° F.

Boiling.—Milk is boiled for one or two minutes in a large vessel and poured immediately into the sterilized bottles, stoppered with cotton, rapidly cooled in running water, and put on the ice. This destroys all living bacteria but not spores or eggs, which will not do harm unless the milk is kept too long after boiling. It should be used within 24 hours.

If the baby's milk is to be mixed with other ingredients, such as oatmeal, barley water, rice water, sugar, etc., these should be added to the milk before pasteurization, boiling, or sterilization. When the milk is once prepared the bottle should not be opened until it is given to the baby. It is very important that the milk should be kept cold until it is used.

Modification of Milk

When it is necessary to give the baby cow's milk, the physician should give explicit directions for its modification; and the mother should keep in close touch with the physician during the whole period of bottle-days, and should enter an accurate record of weight and temperature (on charts which the physician will usually furnish for that purpose), which can be submitted to him in case of any trouble or illness. These charts mean more to the physician than all of the mother's descriptions of symptoms, but they should be carefully and accurately kept. The mother should choose a physician who has made a specialty of the feeding of children, rather than the family practitioner; one who will not experiment, but who will study the individual child, and will carefully give such directions as will ensure his best good.* There are many general formulas for the modification of milk. "Practically all pediatrists have their own methods of doing things and their own very definite policies in regard to the hygiene of infancy, particularly with reference to feeding," says Dr. S. Josephine Baker. The many books written on the care and feeding of children are not intended to take the place of the advice of the local physician who sees the child every day, or as often as need be, but rather to enable the mother to give intelligent aid to him. Where the mother is so situated that it is impossible to be in close touch with the physician, one of these books by a good authority is most helpful, and should certainly be followed to the exclusion of the advice of well-meaning but ignorant neighbors, relatives, and friends.

Intervals and Times for Feeding

Dr. L. Emmett Holt's schedule for feeding healthy infants during the first year is as follows:

Age	Intervals between meals by day	Night feedings 10 P.M. to 7 A.M.	Number of feedings in 24 hours	Quantity for one feeding	Quantity for 24 hours
	Hours			Ounces	Ounces
2nd to 7th day	3	1	7	1½—2½	10—17
2nd and 3rd weeks	3	1	7	2—4	14—28
4th to 9th week	3	1	7	3—4½	21—31
10th week to 5th month	3	1	7	3½—5	24—35
5th to 7th month	3	0	6	4½—6½	27—39
7th to 12th month	4	0	5	6½—9	33—45

Practical Suggestions

Not every infant, of course, requires precisely these quantities; some thrive on less, others consume more without harm. In feeding an infant in this simple fashion the following hints will also prove useful:

1. When the diet is altered, only one change should be made at a time; we do not increase both the bulk of the meals and the strength of the mixture simultaneously. Begin by substituting for one or two of the usual feedings, bottles containing either a stronger mixture or a larger quantity, and if these agree well, the new diet is given next day instead of the old.

2. Over-feeding is more common than underfeeding. A child of a year old seldom requires more than a quart of milk in twenty-four hours.

3. Crying and fretfulness are usually due rather to indigestion than to hunger. Crying is probably due to hunger if (*a*) it occurs immediately after a meal or shortly before the next meal is due—a whining cry, unlike the screaming produced by colic; (*b*) it is not accompanied

by other signs of indigestion—drawing up of the legs on the abdomen, the passage of yellowish-green movements, with whitish flakes or mucus in them, and flatulence.

4. The most reliable indication that the child needs more food is cessation of the weekly gain in weight. Conversely, as long as he is gaining steadily, his food need not be increased.

Signs of Successful Artificial Feeding

The signs of success in artificial feeding are (1) normal development and a regular gain in weight of four or five ounces per week during the first six months, and about three ounces per week during the rest of infancy; (2) absence of indigestion; (3) freedom from rickets and other nutritive disorders towards the end of the suckling period. The first of these is the most important, and no infant can be looked upon as doing well unless it is gaining at least a quarter of a pound a week. It is of the utmost assistance in rearing a baby by hand to weigh him regularly each week and record the weight.

When an infant does not thrive, the mother requires medical advice, and baby's management then no longer comes within the scope of this article. It is important to attend to even trivial digestive disturbances promptly—the longer they are neglected, the more difficult they are to cure. Persistent failure to gain weight is a very serious thing, and, no matter how well the child looks in other respects, his life is in danger so long as his weight remains stationary.

Selection and Care of Bottles and Nipples

Feeding bottles should be of the simplest pattern, in order to facilitate cleaning. They should have neither screws nor sharp angles which are difficult to reach with a brush. Two bottles should be in use alternately. After a bottle has been used it should be cleaned out at once before the milk has time to dry; and it should be kept full of water, to which a pinch of soda has been added, until it is again required. Before being used a second time a bottle should be thoroughly cleansed with a brush and plenty of soap and very hot water.

Care of the Bottle.—Every bottle should be thoroughly cleaned with a brush and a solution of baking soda and water, a teaspoonful of soda to a pint of water. The bottles must then be thoroughly rinsed with clear water. If the milk has fermented or if some residue adheres to the bottle and the same cannot be properly cleaned, then boiling the bottles will be necessary. In general, for daily use, the bottle need not be boiled every day.

Proper Time for Cleaning Bottles.—The best time to clean a bottle is immediately after the baby has been fed; this prevents the food souring in the bottle, and it is very easily cleaned.

The bottle brush has a long handle and bristles for cleansing the bottles. This brush should be used before the bottles are put into the soda solution. It is understood that the brush itself may harbor bacteria and particles of milk removed while cleaning. It is therefore understood that the brush must be thoroughly boiled in a soda solution after each use.

Choice of Nipple.—This is another important matter. "My preference has always been for a black rubber nipple," says Dr. Louis Fischer, "and it is a very wise point to use a nipple no longer than one week; in other words, old, worn nipples are useless for the proper management of infant feeding. Black rubber is softer than white rubber. Most white rubber is supposed to contain lead; hence a decided reason for not using it."

Most prominent pediatrists agree that the long rubber tubes are a convenient place for harboring micro-organisms, and they have been universally condemned. One of the best nipples made is the so-called anticolic nipple. This nipple has a ball-shaped top, which enables a baby to take a firm hold; it has three small holes, which give an easy flow of milk, and regulate a slow meal. Nipples having very large openings, which will permit a baby to finish a six or eight ounce bottle of food in five or six minutes, are useless, and this gulping of food is really the cause, or one of the causes, of infantile colic.

The straight "Hygeia" bottle, which can be cleaned as easily as an ordinary glass, will be found one of the most satisfactory. It is almost impossible *not* to have it perfectly clean, while the special nipple which fits over the top of the bottle is large enough to give the baby a firm hold, and allows no creases or corners where germs may lurk. "Hygeia" bottles are marked for measuring the milk. In selecting these nipples care should be taken that the one selected is of the correct size for the child. Carelessness in this direction may ruin the shape of the child's mouth. The nipple should be as nearly as possible a substitute for the soft breast of the mother, and as the rubber does not yield to the pressure of the child's mouth it is better to have the nipple too small than too large—though care will obviate both of these extremes.

Cleaning the Nipples.—The prevention of stomatitis and mouth affections depends upon proper hygiene of the nipple. It does not require much time or trouble to remove the nipple from

a bottle and throw it into boiling water immediately after using. Boracic acid or common salt may be added to the boiling water. A nipple thus treated is properly sterile.

Cleansing the Mouth

The mouth may be cleaned by means of a bit of absorbent cotton dipped into clean, sterile water, and this should be done at least once a day. This is not necessary after each feeding. The nurse's finger is too large for this with the very little child, and the cotton may be carefully twisted about a blunt wooden toothpick, taking care that it is all covered by the cotton, that the lips may not be injured. The folds between the lips and cheeks may thus be kept clean and free from sores. After the first teeth begin to come they should be cleaned regularly with cotton at first, a small, soft tooth-brush soon being substituted. "It is never too soon to begin keeping a child's teeth clean."

Preparation of Food

It is immaterial whether food be mixed in bulk, or whether each bottle be prepared separately. In the former case each feeding requires to be warmed before being given; in the latter case boiling water is used as a diluent, and this raises the temperature. Milk should be measured in a glass or bottle having the quantities indicated; the capacity of a tablespoon varies from ½ to ¾ of an ounce.

Bottles should be warmed just before they are required, and any unfinished contents should be thrown away. Night feedings must not be kept over a food-warmer or register; to do this is simply to incubate germs. Instead of water, barley-water, thin gruel, or lime-water is sometimes used. In ordinary circumstances they have little or no advantage, but the physician may prescribe them to meet some special need or condition.

Use of Orange Juice

"There are many infants whose nutrition is distinctly benefited by giving small quantities of orange juice as early as five or six months, when two or three teaspoonfuls a day may be given an hour before the feeding. By the time one year is reached, from two to four tablespoonfuls a day may be given. It is particularly useful when there is constipation. It should always be strained, and care should be taken that it is sweet and fresh." (Dr. L. Emmett Holt.)

Vomiting immediately after a feeding shows that the stomach has been over-filled. The remedy is obvious. The vomiting of indigestion occurs at a later period, and is usually associated with colic, diarrhœa, and greenish stools containing flakes of "curd." Slight attacks of indigestion and fretfulness often yield to a dose (one teaspoonful) of castor oil; the amount of food given should also be diminished.

Slight degrees of constipation may be cured by increasing the fat in the diet—adding cream, or giving a few drops of olive oil, by using oatmeal gruel as a diluent, by adding magnesia to the food, or by using a soap suppository.

When an infant is attacked by acute diarrhœa milk should be stopped entirely, and a dose of castor oil given. The child should be fed on albumen water, made by shaking the white of an egg with eight ounces of water in a clean bottle, and adding a tablespoonful of sugar. This should be given in the usual quantities and at the usual intervals, according to the age of the child. If the child is thirsty, as much boiled (and cooled to right temperature) water should be given him as he will drink. If the condition does not yield to such treatment the physician should be consulted without delay.

Examination of the Feces of the Baby

In all digestive and intestinal disorders of the child the mother should insist that the physician make an examination of the feces, as certain conditions will only be shown in these. By such examination he can tell at once what is the cause of the disorder, and can judge if the food which is being given is meeting the need of the child. While it is possible that the food may not make the child ill, it may at the same time not contain some of the elements necessary for his growth, or he may be unable to digest, and so get the good from it. Only the physician can determine what is the cause of the trouble, and what is the best way to meet and cure it, and he only by careful study of the individual case combined with his study and knowledge of many other cases.

Additions to the Diet

A cereal should be added about the eighth month. This may take the form of a tablespoonful of oatmeal gruel stirred into each bottle of milk. When the mother has insufficient milk it is often necessary to supplement this by one or two bottles of cow's milk, modified to suit the need of the child. There is little danger that the two will disagree. However, there are children who cannot take cow's milk in any form, and the ability to take it should be carefully tested before it is given in any quantities. If the child is well, the probability is in favor of

the cow's milk making no trouble, but to some delicate children, or in cases of certain forms of intestinal trouble which sometimes occur, cow's milk is almost a poison.

In such cases an extra effort should be made to secure a wet-nurse, as, indeed, should be done before resorting to any kind of artificial feeding. Often a nursing mother has more milk than her baby can take, and a strong, well woman can nearly always increase the supply, nature responding to the increase in demand, and this, too, without loss in quality. While it is desirable to have a wet-nurse who gives her time to this service, sometimes a kindly neighbor or friend can be found who is glad to give the child two or three nursings a day, other feedings to be supplied by the physician's prescription. A mother should not hesitate to make her need known under such circumstances, and, it may be added here, a mother who has an excess of milk should make inquiries to find if there is not some child who needs it before resorting to any means of decreasing the supply. While this is a service for which no amount of money can really pay, it is a service of love which any mother should be glad to give, and which the mother of the child whose need is so great should accept in this spirit.

Condensed Milk and Proprietary Foods

Perhaps no one subject has received more attention and study in the last decade than this one of infant feeding. It may now be said to be passing out of the experimental into the realm of exact science, and the experienced physician is soon able to determine the needs of a child, and to prescribe for them without the long experiments from which so many children have suffered. It is seldom any longer necessary to give baby foods. While children fed upon them seem to thrive for a period, they are seldom vigorous, and are peculiarly liable to rickets, scurvey, and other diseases which result from mal-nutrition, and usually suffer most from the various contagious diseases of childhood. Analysis of the baby foods shows that in most of them excess of carbohydrates, the low protein ratio and the almost infinitesimal amount of lactose make them anything but a "balanced ration." The excess of sugar in most of the brands of condensed milk makes them equally undesirable, and if condensed milk is used, in an emergency, it should be fresh and unsweetened. All of the milk substitutes find their best, and perhaps their only justifiable use, when traveling, or when, because of uncontrollable circumstances, it is not possible to secure clean milk. They should not be regarded as the final solution of the problem, or given as continuous and steady diet.

Suggestions from the Babies' Dispensary and Hospital of Cleveland, Ohio

"Warm each feeding to about body heat before giving it to the child, by placing the bottle in a dish of hot water; hold the baby in your arms while feeding; do not allow the baby to drink from the bottle any longer than fifteen minutes at the most; *pour away any of the rest; do not save this for the next feeding.*

"Do not coax the baby to take more food than he wants. Too large quantities and too numerous feedings harm the stomach and lead to intestinal disturbances. That's what makes the baby cry so much, and not, as mothers think, insufficient food. Do not overlook a serious illness because the child is teething, for teething very rarely makes the baby sick.

"From the seventh month on, give one meal of broth daily. From the eighth month, give two to three tablespoonfuls of strained oatmeal, rice, tapioca, farina, flour soup, or zwieback, daily. From the tenth month on, prune juice, orange juice. Never give more than five meals a day in all."

FOOD FOR LATER INFANCY AND CHILDHOOD

BY

FLORA ROSE

THE feeding of the baby during the first nine months or year of its life is so important to its future, that, under normal conditions, nature is not willing to let us experiment with it, but cares for it herself by providing mother's milk. This first year is the time when the baby's digestive powers are being made ready for use. Toward the end of the year, the healthy, human digestive apparatus is ready to begin its more exacting education. It now needs training by carefully-chosen exercises. It would be absurd and unwise for us to try to hamper the year-old baby in his

attempts to crawl or walk or otherwise use his strengthening muscles. It is equally foolish to limit the diet of the normal year-old child to milk only. He is instinctively ready to begin the active use of his muscles, whether of locomotion or digestion. On the other hand, these are functions which are by no means fully developed. Are we going to demand greater feats of the muscles of digestion than of the arm and leg muscles? The underlying principle of child feeding should be to *develop* the child's powers of digestion, and neither to retard nor to overtax them. If child labor is to be discouraged it must be discouraged in the less apparent but equally real way of making a child's immature digestive apparatus do grown-up service.

The two mistakes most often made are:

(1) Giving foods unsuited to the stage and age of development.

(2) Permitting children to eat between meals and at irregular hours.

Use of Solid Foods

If a child has been bottle-fed, the use of semi-solid or solid foods begins somewhat earlier than with the breast-fed baby. Wise care should underlie this use of solid foods, and the baby should not participate in the family dietary, as so frequently happens, just because milk is no longer its sole maintenance. The baby just weaned is not immediately ready for a very varied diet of solid foods, although it has established its ability to digest starch and has increased its ability to digest the other food-stuffs. These powers should be tested a little at a time and the burdens imposed on them should be gradually increased. The first starchy food given to a baby is cereal gruel mixed with its milk, later cereal jelly and unstrained cereal, and then bread-crumbs and bits of crust or zwieback or tough educator crackers, to develop its powers of mastication. Strained fruit-juices are given first, then fruit-pulp and cooked mashed fruit, and finally the fruit itself. Meat-broth and meat-juice precede the use of scraped meat, and this precedes meat which is finely cut. Vegetables are mashed, bread is crisped, cereals strained, meat scraped or cut fine, until the child has some grinding teeth and is old enough to obey the command to "chew." The child should be trained to digest fat by giving it, first, rich milk, then thin cream, then butter, and lastly other solid fats.

Gradual Increase in the Strength of Foods

This idea of gradually increasing the strength of the food to be digested as the child grows and develops should be carried out all through childhood. If more thought were given to this there would be little need in later life to discuss the digestibility and indigestibility of various foods. A sound, well-educated stomach would be able to stand the wear and tear of the every-day diet. Certainly we should learn to digest foods that require real work on the part of the digestive organs, but this should come gradually. It is all very well to say that Jane or John is a perfectly vigorous child and at two or three years of age shares the family dietary in all particulars. Do the grown-up Janes and Johns exhibit such sound health as to justify us in our belief that the vigor has endured?

The Dreaded Second Summer

Much of the trouble that is laid at the door of teething, and most of the difficulties feared during the baby's second summer, are due, not to teeth and time, but to wrong feeding methods. The child's first summer is, in point of fact, more perilous than the second, but usually during the first year it is living on a carefully regulated diet, and all the digestive processes are proceeding normally. During the second year, when foods other than milk should of necessity appear in the child's diet, unwise choice of foods is made, and digestion is disturbed. Cutting teeth adds to this disorder, and the time becomes one to be feared by the mother and suffered by the child.

Although the child may be at the family table from about the third year, it should not be allowed the freedom of the family dietary. It is far better for the child to learn that certain foods are not for its consumption, and that they are actually as remote from its scheme of things as the moon. There is no better lesson in self-control or temperance than the one that may be taught in this simple way.

Mastication

It is important that a child should learn to masticate its food well, and to this end it should have something to chew as soon as the large back teeth begin to come. Tough bread, zwieback, educator crackers, and, later, some meat are useful for this purpose. All of these things develop the powers of mastication, and give the exercise necessary to develop the jaw and make room for the second teeth.

Forbidden Foods

During the early years of childhood, fried foods, pastries, hot breads, heavy puddings, strongly flavored vegetables, much meat, candies, and the like should find scant place in the diet.

Tea and coffee or other stimulants should never be given during this period.

Milk Should Hold First Place in the Child's Dietary

All through childhood, milk should be a mainstay in the dietary. The complaint is often made by mothers that their children do not like milk and will not take it. Inquiry generally shows that the cause for this has been the use of quantities of very sweet or highly-flavored foods. The distaste is generally a fancied one. The cases in which a child has some persistent disability to digest milk are very rare. If the child has been permitted to become notional in his food habits and will not take raw milk, some way should be found to include it in the dietary. This can be done through the use of milk soups, weak cocoa, custards, cereals cooked with milk, and simple puddings. All the milk needed by the child may be concealed in this way.

The child's sense of taste is very highly developed. It derives much more flavor and "taste satisfaction" from such bland foods as milk and cereals, and from simple bread and butter, than does the adult. The healthy child does not need highly-flavored, stimulating foods, for nature has given it a keener relish for bland ones. If strongly-flavored foods are constantly given to the child the keen sense of taste becomes dulled, and he soon loses his pleasure in simple fare.

Sweets for the Child

The question is constantly asked, is not the child's natural fondness for "sweets" an indication of its need for candy or sugar? A certain amount of sugar in the dietary is certainly a very desirable way of supplying some of the child's energy. But this sugar may be supplied best in the form of milk, in sweet fruits and vegetables, in fruit jellies, and in well-sweetened simple puddings, with only occasional pieces of candy as a dessert at the close of the meal. All the sugar a child needs may be included with other foods at meal-time without the necessity of the too common between-meal indulgences. If a child is allowed to eat candy, cake, and quantities of sweet crackers between meals, the appetite constantly accustomed to the stimulus of the sweet food becomes vitiated. As a result, the meal-time becomes a farce. "Not hungry," is the complaint. Muscles, nerves, blood, and bones, which need all the things that only such foods as milk and eggs and cereals and fruit are able to supply, become badly nourished, and the child is not the rosy, wholesome, sound-sleeping, rightly-developing mortal intended by nature.

If a child is very active it is a simple matter to increase the sugar in its dietary without giving candy between meals. Sugar may be allowed with cereal or in bread-and-milk. Sweet jellies may be given to the younger children at some meal and preserves to the older ones. Simple desserts and cooked fruits may be well sweetened. Then the child eats the other foods along with the sugar and the diet is not a one-sided affair. When we say that constant candy-eating results in poor teeth we are describing a more deeply-seated evil than we realize. If poor teeth are caused by too much candy, it is usually because the use of the sugar has so satisfied the child's appetite that the child has been unwilling to include the blander bone-building materials in its diet. If the teeth are affected as a result, what about the harmful effects on the more obscure tissues which are hidden from us? Concentrated sugar solutions are very irritating to the mucous membranes and may give rise to gastric disorders, hence the further desirability of having the sugar used in the dietary diluted with other foods.

Opinions regarding the Value of Meat

Some of the men most learned in the conditions best for little children believe that the use of meat in the dietary of the child until after the fifth, sixth, or seventh year is not advisable. The main reasons given for this are: (1) Meat is more subject to decay in the intestines than other protein foods. Clean, wholesome milk tends to prevent this decay. (2) Meat contains stimulating substances which, though they may be of use in the older organism, are not needed by the younger one. The baby or child should be vigorous enough not to need any stimulant. These substances give rise to waste products in the tissues which, though they may not be directly harmful, are certainly not beneficial to the child. The kitten is often cited as an illustration of this principle. While cats live healthily and well on a rich meat diet, if kittens are fed largely on meat they become subject to convulsions. (3) Meat is a highly-flavored food. A diet rich in meat is likely to be a diet poor in milk, for the higher flavor tempts away from the milder one. Such a diet may be deficient in lime.

Some physicians believe that it is an unwise practice to eliminate meat from the child's diet because meat is a useful source of iron. An intelligent knowledge of foods soon shows how this disadvantage may be overcome by using eggs and certain vegetable foods relatively rich in a form of iron more available than that which occurs in meat. Meat has one decided advantage in that

it necessitates the use of the powers of mastication.

Eating between Meals

Again let emphasis be laid on the bad habit of allowing children to eat between meals. It results in no good to the child and must be strongly condemned. If a child is habitually and really hungry between two definitely-established meals, shorten the interval between the meals, or give more food at the meal, or establish at a regular time between the two meals a simple meal of bread-and-milk or dry, unbuttered bread. If dry, unbuttered bread is given, it will be found that the between-meal habit exists frequently more because of a desire for something good to eat than from actual hunger. Learn to distinguish between habit and hunger. It is a duty which parents owe their children and if it is neglected the child may finally pay the price.

Attractive Serving

It is impossible to overestimate the importance of serving food in an attractive manner. Food may be of the right kind, carefully prepared, clean, wholesome, and good; but at the last it may be presented in such a way as to appeal neither to eye nor to appetite. If a child does not like food which the parent knows to be desirable, the dislike may generally be conquered by a modification in the way the food is served.

Two little girls of the author's acquaintance would not eat baked potato until its commonplaceness had been removed by having wonderful frills sculptured on it with the tines of a fork. The change in taste caused in this way was very real to them and they clamored for more and more. A little imagination on the part of the parent will do much to make John and Jane eat bread-and-milk and find therein the flavor of nectar and ambrosia. But the bread-and-milk must be as daintily served and as attractively presented as any more elaborate feast.

Here is an opportunity to point out the difference between refinement and coarseness. Any intelligent child will be quick to see this difference, and will soon form an aversion for signs of uncleanliness at the table.

CLEAN MILK AND SAFE MILK

BY

CHARLES-EDWARD A. WINSLOW

THE campaign for clean milk has taken mighty strides during the last few years. The inspection of farms and dairies has made the filthy conditions which were nearly universal two decades ago, almost a rarity in many regions. The bacteriological control of milk has made it possible to detect and remedy the conditions of dirt, temperature and time which lead to high bacterial numbers. The certified dairies have by their example exerted a powerful influence for good. Finally, the system of grading milk suggested by Dr. Alonzo D. Melvin of the Bureau of Animal Industry, put in force by the New York City Department of Health under Dr. Ernst J. Lederle, and amplified by the National Commission on Milk Standards, has furnished an excellent practical basis for administrative control.

High Cost of Clean Milk

Progress along these lines is encouraging; but clean milk alone can never solve the public health problems involved. In the first place the cost of safe raw milk is prohibitive. In order that a raw milk may be reasonably safe it must come from tuberculin-tested cows, it must be protected so far as possible at every stage from human pollution, and it must be protected from the ordinary dirt bacteria which set up putrefactive changes. Milk of this character costs from 10 cents to 20 cents a quart in various localities, generally about double the market price for ordinary milk. Such certified milk usually makes up about 1 per cent. of the total supply, and it is not likely that it will be very materially increased. The general elimination from dairy herds of all cows reacting to the tuberculin test would in itself be an entirely impractical procedure. In small towns it may be possible by strenuous efforts to secure a fairly large proportion of milk of approximately certified grade. In large cities, however, a milk drawn from tuberculin-tested cows and kept clean enough to be even reasonably safe can only be the luxury of a very small class.

Possible Dangers

Furthermore, even the best certified milk can never be certainly known to be free from in-

fection. It may be protected against the danger of bovine tuberculosis, and it may be kept free from any considerable dirt contamination. No raw milk, however, can be absolutely guarded against human pollution. The milker and the dairyman are human; and even under the most stringent rules they will sometimes cough over the pail or get their fingers in the milk. If at such times they happen to be carriers of some disease a single cough will be enough.

The danger of such infection was forcibly illustrated by the outbreak of septic sore throat in the vicinity of Boston in 1911. Over 1000 cases of this disease were caused by a certain milk supply which was not, indeed, of certified grade, since the cattle were not tuberculin-tested, and since the bacterial counts were not up to a certified standard. In regard to human infection, however, everything was done that is practicable to do. Farmers were encouraged and urged to report cases of sickness and when such cases were reported the milk was paid for in full. At the dairy, where the infection from an unrecognized carrier probably occurred, sanitary conditions and discipline could scarcely have been improved. If infection took place here under the conditions which I found I cannot see how the possibility of it could be avoided in any certified dairy.

The Alternative—Pasteurization

Fortunately we need not rely on cleanliness alone to protect our milk supplies, since we have a second line of defense in pasteurization. The heating of milk to an average temperature of 145° for a period of thirty minutes to an hour will destroy all disease germs and reduce the ordinary dirt bacteria to a small fraction of their original numbers. This is the key to a practical solution of the milk problem.

Objections to Pasteurization

Four principal objections have been made against pasteurization, all of them, as has now been shown, without foundation. It was first claimed that pasteurization was unreliable. This was quite true of the earlier systems of commercial pasteurizing in which the milk was heated to a very high temperature for a few seconds only. It is not true of the present "holding system" in which the milk is retained at a moderate temperature (usually between 140° and 155°) for at least twenty minutes. Some opponents of pasteurization were concerned because its use might lead to a relaxation in the struggle for initially clean milk and a complacent acceptance of "cooked filth." There is, of course, no reason why this should follow and it has not followed in cities where pasteurization has been most extensively introduced. It is quite proper for the health officer to insist on getting milk of as high an initial grade as his people can pay for, and then to have it pasteurized for complete safety.

It was at first thought that pasteurization would destroy all the lactic acid germs, and leave milk in such a state that it would rot without the souring which serves as a warning with ordinary milk when decomposition has reached a certain point. The most careful bacteriological tests have shown, however, that, as a matter of fact, this does not occur. Pasteurized milk, of course, keeps much longer than ordinary milk, but when decomposition does set in it is of the normal souring type.

Finally it was claimed that pasteurized milk was indigestible for babies, and would cause scurvy and rickets. This seems again to have been an absolutely unfounded supposition. Within the last five years the milk supplies of New York, Boston and Chicago have been transformed from 90 per cent. raw milk supplies to nearly 90 per cent. pasteurized milk supplies,—with no recorded increase in nutritional diseases of children. If scurvy were caused by pasteurized milk it could at once be cured by adding orange juice to the diet, but it is not so caused except in very rare cases, if at all. In a recent careful study carried out in Washington, 351 babies fed on raw milk gained on the average .4030 ounce a day, while 557 babies fed on pasteurized milk gained on an average of .4077 ounce. One hundred and ten babies were fed for part of the time on raw and part of the time on pasteurized milk. During the raw milk periods they gained an average of .4312 ounce and during the pasteurized milk periods an average of .4607 ounce. Some of the leading authorities in England and the United States are now even advocating the use of boiled milk, the digestibility of which one might, *a priori*, expect would really be unfavorably affected.

Value of Pasteurization

Pasteurization, then, is a safe and efficient final safeguard for the purity of our milk supplies. Jordan estimates that the general pasteurization of milk supplies in Chicago and Boston was followed by a reduction in the typhoid death rate amounting to a saving of 100 and 30 lives a year, respectively. In the case of milk to be used for infant feeding the danger is, of course, greater, and the need for protection still more urgent. The pasteurization of the milk used in the infants' hospital at Randall's Island, New York

City, reduced the death rate to less than one-half of what it had been with raw milk.

One of the first essentials for health in every city and town is a regulation providing for the proper pasteurization of all milk not of certified grade. This should mean no relaxation of the attempt to make the milk as clean as possible and it should on the other hand imply a systematic supervision of pasteurizing plants so that the term "pasteurized" may be no empty guarantee. "Clean milk properly pasteurized" should be the motto.

Pasteurizing Milk in the Home

No milk except that of certified grade should ever be used without pasteurization. Tuberculosis germs from the cow, typhoid, diphtheria, scarlet fever and tonsillitis germs from human sources, and poisonous products of bacterial decay make unheated milk one of the most dangerous foods. There is no more reason for drinking raw milk than for eating raw meat.

Even certified milk is far safer pasteurized than raw. The wise mother buys the best milk she can afford for her children and then pasteurizes it to make it absolutely safe. Pasteurization means heating the milk to between 140° and 155° F. for twenty minutes. By this process *all* the *disease germs* and most of the other germs are destroyed and the taste of the milk is not altered as it is by higher heating. The best way to pasteurize is to stand the feeding bottles in a rack in a vessel of water and heat to 140° and then watch the temperature with a thermometer, placing the vessel on the back of the stove when it rises to 155° and heating again when it falls to 140°. After twenty minutes the milk should be promptly cooled and kept on ice.

An easier way to make the milk reasonably safe, although with some risk of changing its taste, is to stand the bottles in a vessel of water, bring the water just to a boil, set on the back of the stove for twenty minutes, and then cool and put on ice.

Home Dirt Test for Milk

The Chicago Department of Health suggests a simple home test for dirty milk which it might be well for housewives to apply. A perfectly clean funnel is used, with a small piece of clean wire netting fitted in the neck opening, and a thin layer of clean cotton batting on the wire netting. The funnel is stood in a large Mason jar, and a quart or more of the milk filtered through the cotton. The cotton is then removed and placed on clean white card to dry. If there is evidence of dirt upon it the attention of the milkman may be called to this direct evidence of careless handling, and if trouble persists the local health authorities may well be notified.

PLANNING AND CARING FOR THE BABY

BY

CECILIA FARWELL

1. The Baby's Bed

In order to have a happy, contented baby, care must be taken that he sleeps, not only comfortably, but in a way most conducive to health and well-being. Preparing a bed for the baby is one of the special privileges and delights of the expectant mother, and if there are other children in the family this is quite an event. The little ones who know that God is soon to give them a new little brother or sister will enjoy helping to arrange the bed for the little stranger, and may be taught a beautiful lesson of love and understanding of motherhood which will stay with them all their lives. One young mother planning for her first baby found the opportunity of teaching a lesson to little children one not to be missed, and so called in her little niece and nephew to help in this special ceremony.

Preparing the Bassinet

In this preparation the mother may safely carry out her desires for beautiful things for the baby, for it does not mean straining of the eyes or bending over fine stitching. The children will love to tie the ribbons and she may watch and dream her dreams. It is a common impulse on the part of the mother to drape the bassinet in white. White, the symbol of purity, seems a fitting color with which to welcome the Gift of God, but it is well to take into consideration that, beautiful as it is, the dead whiteness of the bed and of a nursery is likely to be very trying to the eyes of a child, and dainty ribbons of pink or

blue break the monotony and add life to the effect.

Low cradles on rockers are not at all good for the child; they are too near to the floor, and therefore to draughts; and rocking is a bad habit. The best crib for the tiny baby is the bassinet, and if one is used a platform on rollers should be made in order that there may be a safe place for it, and that it may be moved from one part of the house to another without difficulty. The bassinet has an advantage in that it is light and easy to move; and the sides being somewhat higher than those of the ordinary bed, it is easier to protect the child from draughts. A clothes-basket admirably adapts itself to this purpose, and is very much less expensive than the especially-constructed bassinet. It should be thirty-two inches long, and may stand on two chairs or a low table, although the platform suggested will be found very convenient. During the first weeks of the baby's life its crib should, if possible, be in a room other than that of its mother, in order to allow her to regain her strength and not be disturbed at night, except for the regular nursings. If this cannot be arranged, the crib may be in a corner of the room, surrounded by a screen.

The Crib-Bed and Its Furnishings

After about the eighth month the child should have the regular crib-bed, which of course may be used from birth if the mother so desires, but the baby should be protected from draughts by light blanketing or sheeting spread over the sides of the crib. White enameled-iron cribs are more practical than brass, as they are easily kept clean. Obviously, the sides of the crib should be high enough to prevent the child from falling out, and should be on hinges, or slide to the floor on rods, so that the mother need not lift the child so high. The bars should be close enough together to prevent the child from being caught between them.

Use a woven-wire spring and a hair mattress, which is far better than one of feathers. Over the mattress spread a rubber cloth, this covered with a doubled sheet; for the sake of warmth a piece of quilting may be put over the rubber, and, to save washing, a pad may be put over the sheeting. Light woolen blankets, with a small quilt, are best for covering. The little pillow should be thin and firm. Curtains around the crib prevent the circulation of air, but a screen may be placed so as to prevent draughts.

The Child Should Be Kept in Its Own Bed

The child should not sleep with the mother. After the nurse leaves, the mother will of course want the little bassinet or bed drawn up close beside her own, that she may reach out in the night and make sure that all is well with the little sleeper, but on no account should she take him into her own bed to sleep with her. Many children have been seriously injured in this way, and others have been deformed by wrong growth of bodies, due to incorrect position while sleeping. In addition to this, the child is likely to nurse frequently during the night, and this breaks the regular habits of feeding, working havoc with the digestive powers, so that colic and bowel-trouble are likely to be the direct result. The little one is very much more comfortable in its own bed.

After it is old enough to move much at night, it may be put into a sleeping bag, and so little arms and legs are safe from cold. Covers should be carefully pinned in place, and the child will be taken out of its nest in the morning as rosy and warm as can be.

2. The Baby's Nap

A great portion of the child's life during the first year is spent in sleep; up to the third month he should sleep from twenty to twenty-two hours out of the twenty-four. During infancy he should have not less than fourteen hours' sleep each day. A little baby in good health will drop off to sleep as soon as fed and made comfortable. A child's daily nap is as essential as its nourishment, and the mother should plan for it as carefully. Children under two years should have a nap both morning and afternoon.

As one of the first requisites for a child is fresh air, it is well to plan from the first that from two to four hours of the sleeping time shall be out of doors. If for any reason this is not possible, the child should be carefully protected from draughts and cold, and all of the windows opened so as to give an out-of-door temperature. It is not easy to do this and avoid currents of air, so that the out-of-door nap is very much better.

A Sleeping Bag

A sleeping bag, which will be found of great value during the first year, can be made of a couple of baby blankets or of eiderdown; two yards will suffice, giving material for the hood, and for making the bag large enough to allow for growth. Fold the eiderdown so as to give from twenty-nine to thirty-two inches double. Sew the sides and top, leaving about six inches across the middle of the top for the opening, shaping this slightly to the neck. Cut the front to allow for room to put the child into the bag, face the sides of the opening, and close securely with buttons. A hood of the same material may be made, and

either attached to the bag, or finished separately, with buttons and buttonholes by which it can be fastened to the bag when desired. This will perhaps be found more satisfactory, if the bag is to be used for night sleeping.

As the bag is sewed across the top, except for the opening for the head, there is no chance for little hands to get cold, and free movement is allowed for restless legs and arms. The child is put into this bag by laying the bag open on the mother's lap or on a table, and placing the child upon it, drawing the bottom over the feet and closing and buttoning the flaps and the neck; the child is now quite protected from any possible draughts and from the danger of "kicking off the cover." Of course this is not all of the covering which he will need for his out-of-door nap. The rest must be regulated according to temperature. There should be a thermometer in the nursery and on the porch, for the mother to consult.

The Out-of-Door Sleeping Bed

The child may be put out-of-doors in the bassinet or sleeping-basket. This should be placed on the platform, as suggested, or so supported on chairs as to avoid all possibility of accident. If the baby-carriage is so constructed as to allow the child to lie full length, this makes an excellent porch bed. A child should not be put to sleep in a carriage unless it is possible so to adjust it as to have the bottom *absolutely flat*. A hard pillow should be put into the bottom of the carriage, and the child should not be propped up. A small pillow, such as is used on the little bed, should also be used in the carriage. Cover should be carefully arranged to prevent all exposure. The parasol over the carriage will serve as an excellent screen from wind. Care should be taken in arranging the cover that the child shall not be smothered—if the weather is so cold as to need much covering.

The mother who has realized the advantage of out-of-door sleeping for the baby will be loath to give it up when cold weather comes, and with care in arranging cover, and watchfulness that the wind does not blow directly against the basket or carriage, the little one may sleep out-of-doors on the coldest days.

"Don't Rock Me to Sleep, Mother"

A child should not be "rocked to sleep," either for the day-time nap or at night. If preparations for the nap are made quietly, and no playing is allowed immediately before sleeping time, a child should go to sleep without any special attention. If he is restless the mother may sit near, and perhaps touch the bed in such a way that he will be conscious of her presence, and a soft lullaby will help; but the last should not be so frequent that the child will demand it before going to sleep. At night, after it has been made sure that all is well, the lights should be turned out, or low, and the child left to sleep in peace. A mother will sometimes find that laying a little child on his stomach will be the remedy for unaccountable fretfulness, as this position not only is restful, but relieves any slight stomach discomfort from which the child may be suffering.

A very little child will not be disturbed by the ordinary sounds of the household, and it is a mistake, and unfair to the older children, so to train the baby that he becomes accustomed to absolute quiet before going to sleep. In this as in many other matters in a child's life, habits early formed mean health and comfort for the child, as well as saving time and strength for the mother, and securing peace for the household.

3. Clothes—The First Year

The first clothing of a babe is that worn by its mother nine months before its birth. Blessed is she who refuses to bind or oppress her own body during these holy months! Clothing should serve the three-fold service of warmth, protection and adornment, but the little one before birth is in ceaseless motion, and garments which hinder free bodily development may have the same effect upon the mind and soul of the child.

Buying the Layette

Dr. Emelyn Coolidge gives the following as showing what a ready-made wardrobe costs. Prices may vary from these in different localities.

Three flannel bands at 19c.	$0.57
Three cashmere shirts at 55c.	1.65
Three flannel barrows at 50c.	1.50
Two flannel skirts at 85c.	1.70
One feather-stitched flannel skirt.	1.25
Two nainsook skirts at 45c.	.90
One nainsook skirt.	.85
Three night slips at 38c.	1.14
Two day dresses at 62c.	1.24
One day dress.	.75
Two day dresses at $1.00.	2.00
One day dress.	1.35
One worsted sack.	.55
Two pieces of diaper at 55c.	1.10
Three pairs of socks at 20c.	.60
Total	$17.15

The Mother's Labor of Love

Of course, other more elaborate and expensive outfits can be obtained, if desired. The ideal gar-

ments of the first layette should be soft and loose, of dainty material, if possible, and perhaps trimmed with sheer narrow lace or feather-stitching. The mother longs to have the baby's things as pretty as she can make them, but this is a labor of love which she must perform with discretion, while she will not be satisfied to leave it entirely undone. Ruffles and ribbons, however, are better dispensed with, as the simpler the clothing the better the baby likes it, and the fewer the garments the easier it is to care for the baby.

Recommendations regarding Under-Garments

The child should have woolen clothes, particularly next to the skin; therefore underclothes of wool, or silk and wool, are advocated both for winter and summer babies, the latter requiring a lighter-weight garment. The chest, feet and abdomen must be warmly clad; the latter should also be supported. The little shirt should have high neck and long sleeves, and button all the way down the front. The abdominal binder should be a strip of flannel about 7 x 30 inches, which is snugly put on, although it should not be tight. The soft woolen band must be used at first, both in summer and winter, though the summer baby may be supplied with lighter weight. This band later gives place to a shirt-like band with straps over the shoulders. The diaper of bird's-eye cotton is pinned to the band or little shirt with *one* pin. Care should be taken in putting on the diaper that it is not "bundlesome" and does not irritate the genital organs. Diapers should be changed at once when damp—even though "not very damp." The decision of conscientious mothers and of physicians is against "stork pants," which seem to save trouble, but which are liable to cause undue perspiration, so that colds are likely to result. The head is very sensitive to cold, so it should be protected, although this covering is gradually withdrawn as the baby grows older.

Protecting Little Feet and Legs

Stockings should be long and pinned to the diaper. Soft kid or chamois shoes, or moccasins, may be worn; although for the tiny baby, the crocheted "booties," which are made to go well above the knee, are more practical, as the little shoes have a tendency to drop off frequently with baby's kicking.

Over-Garments—The "Gertrude" Costume

The "Gertrude" costume has many points in its favor. The undergarment is cut princess, long-sleeved, and reaching below the feet (but not a needless entanglement for the little limbs) and closed at the bottom by a string or buttons. Canton-flannel is the material chosen by some for this, but outing flannel or stockinette is better. The next garment is of baby flannel (woolen) also cut princess, longer than the other, armhole and neck pinked, not bound. Then the ordinary baby dress, not too fancy nor long. These three garments are placed together, sleeve in sleeve, before they are placed over the little one's feet and gently drawn up. The arms are slipped into the tiny sleeves, the garments are buttoned down the back, and the babe is dressed, except for the diaper, with its *one pin*.

From Long to Short Clothes

There is a tendency to do away with the old-fashioned long clothes for the baby, but as these protect little feet and legs better than the short dresses, and are easier to keep in place than the necessary blanket which must be used for the first few months if short clothes are used, it is better to have the long clothes at first. The flannel "barrow," which can be gathered up under the outside slip and pinned at the bottom, insures warm feet and legs, and greatly lessens the danger of the child taking cold from exposure in handling.

The change from long clothes to short dresses must be decided by the climate and time of the year. There is little change except as to length—the flannel skirts on waists and slip-dresses are still used, and the baby is too small to allow of much variation in design. The one-piece garments for long or short clothes have the sleeves cut in one with the body. This requires less time and material in making, and, as there are no shoulder or arm seams, such garments are comfortable.

Keep the Baby Just Warm Enough

Never use enough clothes to make baby perspire, for this will cause him to take cold easily; but use enough to keep the body at an even temperature. Low-necked dresses with short, thin sleeves that do not protect the chest and arms, and short stockings, leaving the legs and knees bare, should have no place in the dressing of young children. It is well for mothers to know that they are risking much when they dress the baby in this way. It is foolhardy in cold weather, and even in summer most babies would be safer wearing thin stockings. One mother put her six-months-old little girl into low neck and be-ribboned short sleeves, refusing to listen to the protests of an indignant grandmother or an angry physician. The baby paid for the mother's vanity

by a long illness, and will probably never be strong and robust.

It is better for children to go barefooted or to go without stockings, wearing sandals only, than to have the body and feet warmly dressed with a portion of the leg bare. The leg exposed to draughts above the socks is often responsible for griping pains in the stomach and intestines, and for bowel-troubles that are usually attributed to other causes. The child may grow rugged from going barefooted, but he will not thrive by having parts of the body exposed in such a manner as to lower the temperature.

Summer and Winter Changes

The baby must not be dressed as warmly in summer as in winter. The band and shirts may be of a lighter weight of wool, and the shirts changed to a lighter weight. The woolen skirt is left off, and one of outing-flannel is substituted. April or May is a good time to change from the flannel gown or wrapper, and cambric gowns may be substituted for these during the hot months. The early summer is an ideal time to change from long to short clothes. But it should not be forgotten that babies are very susceptible to cold or change in temperature, and that they should at all times be so dressed as to be warm, without being burdened with heavy clothing.

The Creeping Baby

The creeping baby should be so dressed as to allow as free movement of little arms and legs as possible. If a child has been trained to the nursery chair, so that he need not be hampered by "bundlesome" diapers, he has an advantage, and rompers slipped on over the little dress, or without it, if the weather permits, are a joy to the baby, and a saving of laundry, as well as of mending for the mother. A pen is now usually used for the creeping baby. In this he is confined to a given space, and so is not "into everything," and is kept on a clean quilt, instead of "crawling all over the house." This is very much better for the child, as it is impossible when he is on the floor to protect him from dust and microbes or from draughts and colds.

Clothing for the Sick Child

A well-known physician tells us that it is always desirable to give careful thought to the clothing required during sickness. When the child is in bed it should be dressed in night-clothes identical with those usually worn. The garments should be changed night and morning, and be aired and warmed thoroughly before they are used again. There is seldom, if ever, any necessity of making a child go without changing its clothing for days or weeks, for fear it will take cold. If the change is made properly, there is no risk. It is very important that the arms and chest be well covered with a sack of some sort when the child is awake. After it is well enough to be out of bed and to sit in a chair a flannel wrapper and knit or felt shoes are useful. Slippers are often dangerous, as they expose the feet to draughts.

4. The Baby's Bath

The first baths of the baby are usually given by the nurse, and perhaps there is no moment when the young mother feels her own helplessness so completely as when she realizes that she must, for the first time, give the baby a bath without assistance. The bath should be given about 1½ to 2 hours after the first morning meal.

The mother should make sure that everything she will need is arranged so that she may lay her hand on it without moving, before taking up the child. As the bath is to be given every morning throughout babyhood, she should supply herself with all possible conveniences, so as to make this time one of soothing restfulness rather than disturbing strain for the child.

The Baby Basket

A baby basket should be made up containing a box of pure talcum powder and puffs, several soft cloths, small, blunt-pointed scissors, a box of bismuth subnitrate, one of cold cream and one of white vaseline, a small roll of absorbent cotton, a pin-cushion with different sizes of safety pins, a thimble and threaded needles (for sewing bands), a baby's soft brush and fine comb, and blunt-pointed toothpicks. A cup of warm boric-acid solution should be prepared for eyes and mouth (one-half teaspoonful of powdered boric acid to a pint of previously boiled water). All of these should be in a convenient place to use as the need offers. A soft towel, bath thermometer, and a soap-dish containing a cake of pure, white castile soap, should be on the table within convenient reach. A basin containing warm water which has been previously boiled, for washing the face; a pitcher of hot, and one of cold water, should be near at hand that the bath water may be brought to the desired temperature if too warm, or, in case of delay, when it may have become too cold. The water in the bath tub should be 98° to 100° F.

An Open Fire

It is well, if possible, to give the bath before an open fire. The temperature of the room should

be from 70° to 73° F., and all precaution against draughts should be taken by enclosing the space in which the bath is to be given by a large screen. No doors should be opened or closed while the baby is undressed. If a metal or earthenware tub is used, it is well to place a large towel in the tub, which shall quite cover the bottom and sides, and so avoid contact with cold metal or enamel. A rubber tub is preferable, both for the convenience in handling and because contact with cold sides is eliminated.

If the bath is to be given in the bath-room instead of the nursery, a suitable-sized board or platform may be laid across the big tub. This should be clamped to the sides of the tub, so as to avoid all possibility of slipping at a critical moment. Clamps for this purpose may be secured at any hardware store for a few cents.

Giving the Bath

The mother may sit in a low chair, and cover her dress with a bath apron of "stork" or oil-cloth, over which should be put on a large flannel apron. The baby should be undressed quickly, and with as little handling as possible, and wrapped in the flannel apron. The face should then be bathed with water from the basin on the table, which is of the same temperature as that of the bath-water. Head and scalp should be carefully gone over, using a soft cloth—pieces of old linen make excellent wash-cloths—no soap should be used on the baby's face, but the scalp may be gently soaped, care being taken not to injure the fontanel. The face should be dried with a soft towel, and the whole body should then be well soaped. Face-towel and face wash-cloth should not be used for the body. It is very easy to keep these separate. Those used for the face may be smaller, and may well be softer, as they come into contact with delicate lips and eyes.

In the Tub

When "soaped" the child may then be lifted into the tub, where the water should come about up to his navel. Holding him in a sitting position, the water should be rinsed from scalp first, and then from all of the rest of his body, special care being taken to get it all out from folds of flesh, arm-pits, and groin.

When the child is in the tub he should be held securely, resting upon the mother's left arm, which is slipped under the back from the baby's right side. By grasping the baby under the arm-pits with the left hand a good hold is secured, which prevents slipping, and the right hand is left free for washing the baby. Care should be taken that the baby is never allowed to be frightened by slipping or falling in the bath, and he will always enjoy the getting into the tub.

He should not remain in the water more than a minute or two, and the mother should slip a soft towel over the flannel apron, which may be damp from the soaping given the child before putting him in the tub. He should then be gently lifted into the lap, quickly covered with a towel and gently patted all over.

Care in Drying

In drying the baby the creases in the folds of the flesh should be gone into carefully, so as to make sure they are thoroughly dry. Chafing in the folds of the flesh, but more especially in the groin and in the buttocks, will occur if precautions are not taken. Keep the parts clean and dry. If the skin is raw and sore, do not use water, nor soap; instead use warm oil on pieces of cotton. Sweet oil, chicken oil, or goose oil will answer if absolutely clean. Then dust with this powder: boracic acid, 60 grains; cornstarch, one ounce; oxide of zinc, one ounce. Mix thoroughly and use freely. If the skin is in good condition, talcum powder should be used after the bath, dusting lightly into the creases, but leaving no excess of powder, especially in the groin, as it is likely to get wet, cake, and cause irritation of the skin.

Another Plan

Some mothers find it is easier to give a baby a bath on a table, rather than take it into the lap. A bath mat, or pad, over which is laid a woolen blanket—or in summer a Turkish towel—may be laid on the table, and the child placed on this; and the mother, standing, may undress the child without lifting him from the table. The bath-tub should be near at hand, and after sponging, under a blanket, or flannel apron, the child may be lifted into the bath, and from there back to the table where it may be laid again on the mat, covered with the towel, and patted dry. The damp towel or blanket may then be slipped out, and the baby dressed lying on the mat. This seems to require less handling than taking the child upon the lap. Low bath-tables of just the right height can be secured, but usually, if the mother prefers this arrangement, a table can be found of the right height without a special purchase.

Use for Absorbent Cotton

The baby's eyes should be carefully washed with the solution of boric acid. A bit of absorbent cotton should be wrapped around the finger, and the baby's mouth gently cleansed. A bit of

absorbent cotton wound around tightly should be used in each tiny nostril. Care should be taken that the cotton is afterwards burned, and separate pieces should be used for each eye, each nostril, and for the mouth. The nails should be kept clean, and when necessary, cut; on no account allow them to get so long as to lead to the possibility of the child scratching its very delicate, tender skin. Only the outer ear should be washed by the mother but bits of cotton may be used in the folds of the "shell."

Dressing after the Bath

The baby's clothes should be fresh each morning. These should be hung on a rack near the fire to air while the bath is in process, near enough to be reached without the mother's moving from her chair, but care should be taken that they are not near enough to be dampened by accidental splashings, or near enough to the fire as to be made so warm as to hurt the delicate skin of the child.

The flannel band should be long enough to go once-and-a-half around baby's body, and be basted at the left side. Basting avoids any possibility of irritation from pins and holds the band smoothly and evenly in place. This band is not a surgical bandage. Its purpose is to protect the delicate organs of the abdomen from sudden changes of temperature. While it in some sense supports the abdomen, great care must be taken that it is not made too tight. Mrs. Anna Steese Richardson says: "I believe that many a baby accused of being irritable and wakeful, and others dosed for colic, are merely suffering from the stricture of a belly-band." Let young mothers take warning. The diaper and shirt should next be put on, then socks; the flannel barrow should be turned up at the bottom and pinned with two safety pins so as to be just above the bottom of the dress, and serve to keep the tiny feet warm; the slip and dress are then drawn over the feet—*not over the head.*

A Bath Game

After a child is old enough, he will usually protest with vigor against many of the little things which are necessary for his well-being. Sometimes the mere washing of his face will bring forth a howl, and the getting of specks out of the corner of his eyes and cleaning his nostrils is often a real battle. This is largely due to nervousness, and if the child's mind can be centered on something else, or if he can be made to regard the whole thing as play or a game, the mother's task will be greatly simplified. With a very little child, making a play of bath and dressing is not easy, but earlier than the mother thinks the little one will enjoy a game at this time.

"Mr. Dirt and His Family"

One mother, who has practically no trouble in this direction, began with a wonderful story of "Mr. Dirt" and his family. The story was told in simplest form—"Mr. Dirt" was always trying to impose on the baby, and mother had to look after him and chase him away every single day, or he would hurt the baby. Even before the child was old enough to understand, the words held her attention. Always accompanied by the same actions, words soon came to have a meaning. "Mr. Dirt's" numerous children loved to get into the baby's eyes and her nose and her hair, and "if mother did not just go after them quick they would stay there all the time, and of course baby would not like that." The chief thing to which the little girl objected was the cleansing of her nostrils, and her mother always made a great show of finding out if any of "Mr. Dirt's children had gotten into my baby's nostrils;" then she would say with the greatest surprise—"Oh, I see one, no, two—no, three of Mr. Dirt's children in my baby's nostrils. Now we must just go after all of Mr. Dirt's children and chase all of Mr. Dirt's children away from my baby!" The little girl entered into the spirit of the game, and was quite as anxious as mother to "chase Mr. Dirt's children away," and what had been a task became very simple.

The ordinary routine of dressing may be made very much easier by interesting the child in the process in similar ways, and securing coöperation instead of protest. It is questionable if little children like to be handled any better than older folk, but since such handling is necessary it is only kindness to them to make it as endurable as possible.

The Evening Bath

At night the baby should have a warm sponge bath, given with as little handling as is possible, that he may not be excited or nervous at "sleepy-time." A fresh band, diaper, and shirt should be put on, over which goes the night-gown, with drawing-string or buttons at the bottom. The night-dress should be of flannel in the winter. For summer babies gowns of outing-flannel, and later cotton, may be used. Some nurses put on a fresh skirt at night, in addition to the band and shirt, leaving it off at about the third or fourth month, if the weather permits changes in that time.

DRUGGING THE BABY

BY

DR. HARVEY W. WILEY

In an instance of which I have personal knowl edge, there came to the father and mother of a lately arrived infant advertisements of soothing syrups and kindred preparations to silence the baby's crying. Two of these advertisements are cited here as typical. In both cases congratulations on the happy event attended the receipt of the circular. The message from Hooper's Anodyne Company is accompanied by a picture of a phenomenally fat infant and reads as follows:

Congratulations and Good Wishes. The advent of the new little Citizen in your household links you in a Golden Bond of Sympathy with Humanity. A thousand new responsibilities attend the arrival of Baby—and early in their train comes the teething period. This is a distressing time to baby, and an anxious one to an inexperienced mother, unless her mother or someone else interested in baby's welfare has told her about Hooper's Anodyne, which allays teething pains, relieves colic, regulates the bowels and stomach and induces healthful and refreshing sleep. It may be procured at any druggist's in 10c. and 25c. bottles, and will prove a blessing in disguise to both mother and child. O. P. Hooper Chemical Company, Chester, Pa.

Hooper's Anodyne is described in the United States Department of Agriculture, Farmers' Bulletin No. 393 on Habit-Forming Agents (issued April 29, 1910), as containing morphin hydrochlorid. The active agents in many soothing syrups, probably nearly all, are opium, or its derivatives, namely morphin, heroin, and codein, and chloroform and chloral hydrate. On page 5 of the bulletin mentioned, the following list of soothing syrups, containing some one of the above-named ingredients, is given:

Children's Comfort (morphin sulphate).
Dr. Fahey's Pepsin Anodyne Compound (morphin sulphate).
Dr. Fahrney's Teething Syrup (morphin and chloroform).
Dr. Fowler's Strawberry and Peppermint Mixture (morphin).
Dr. Groves' Anodyne for Infants (morphin sulphate).
Hooper's Anodyne, the Infant's Friend (morphin hydrochlorid).
Jadway's Elixir for Infants (codein).
Dr. James' Soothing Syrup Cordial (heroin).
Kopp's Baby's Friend (morphin sulphate).
Dr. Miller's Anodyne for Babies (morphin sulphate and chloral hydrate).
Dr. Moffett's Teethina, Teething Powders (powdered opium).

Victor Infant Relief (chloroform and *cannabis indica*).
Mrs. Winslow's Soothing Syrup (morphin sulphate).

The promiscuous use of deadly, habit-forming drugs is a constant threat, not only to the health but to the life of the infant. And if the child survives such drugging, its nervous system may be seriously affected for life or the seeds be sown of a craving for drugs or stimulants. Mothers cannot be too particular in regard to these matters. Possibly it may be advisable in certain acute conditions to use a very small quantity of some of these threatening drugs to tide over a crisis, but never in any circumstances should this be done except by the advice and under the care of a physician. Far better to listen to the infant's cry for a while than to have it forever hushed.

Tricks to Catch the Unwary

The second typical advertisement takes its keynote from what I have said above. It reads as follows:

Mothers! Mothers! Don't kill your babies! It isn't necessary to dope them with morphine-loaded, bromide-saturated, or chloral-filled soothing syrups and anodynes to keep them from crying.
Crying is not an ailment; that is the way your little one tells you that something is wrong, a colic pain, or a bowel irritation.
You cannot cure these ailments with dope. The doped anodynes are plainly labeled as the Food and Drug Laws require, and you can know them. They deaden the pain, dull the minds, ruin the nerves, and weaken the bodies of the future men and women.
We recommend the medicines your grandmothers used—catnip, fennel, peppermint, sage, caraway—not a solution of morphine, as some advertisements tell you; and now for your convenience we have combined these valuable ingredients into a preparation called Texter's Catnip and Fennel Compound (without alcohol) at 25c. for a three-ounce bottle. A trial will convince you of its merits.
UNIVERSITY DRUG STORE,
532 Market St., Perkasie, Pa.

I know nothing of the various virtues of the remedy or medicine just described, but it is hardly convincing to attempt to magnify the virtues of one remedy by calling attention to the threatening character of another. It may be that there are circumstances in which catnip, fennel, peppermint, sage, and caraway are advisable in the

treatment of ailing infants, but any promiscuous doctoring by mothers can only be regarded as dangerous. If the child is not seriously ill and the medicine is a harmless one, no serious results will occur. If, on the other hand, the infant is seriously ill and the medicine is of no value or is dangerous—and either is very likely to be the case—then there is danger that it may die without proper medical care.

Examples of Misrepresentation

The lengths to which the unprincipled persons handling doped baby syrups will go to allay the suspicions of the purchaser and effect a sale are almost inconceivable. Victor's Infant Relief is proudly labeled, "Contains no morphine and no opium," all of which is true, but it was found to contain both chloroform and *cannabis indica* (hasheesh), neither of which is fit for babes.

A medicine which the federal government very recently charged with misbranding is Wood's Soothing Syrup, which comes from Brenton, N. J. The sample analyzed by the government chemist contained two grains of opium, whereas the label declared one and one-fourth grains. Remarkable claims were made for its efficiency in whooping-cough, croup, all coughs and colds, as a preventive against taking cold, and as a specific in the incipient stages of consumption; it was further suggested that a few drops in a child's bottle would prevent colic and entirely obviate any difficulty in digesting the milk. To recommend an alcoholic solution of opium as a steady diet for a child on a bottle, to be used as a preventive measure, seems diabolical to the average mind, yet the court suspended sentence on account of certain technicalities.

The sweeping claims made for many of these nostrums by their manufacturers ought to excite the suspicions of sensible parents.

The Poison Label Rejected

The Anglo-American Drug Company, handling Winslow's Soothing Syrup, which contains morphin sulphate, was forced recently by the British pharmacy law either to label the product "Poison" or change its composition. The latter part of the alternative was chosen, and the young Britisher now gets his Winslow's syrup with potassium bromid in it instead of morphin, which is a slight improvement, but not one to brag about, since bromids have no place in a baby's menu. As these syrups are largely used by ignorant, unscrupulous nurse girls, the value of the poison label cannot be overestimated. Morphin, chloroform, or heroin on the label may mean but little, even to the average person, when no immediate ill effects are observed, but the most ignorant would hesitate to administer a dose from a bottle marked "Poison" or bearing the skull and crossbones.

It seems strange that one should have to argue and plead for the control of so crass an evil, but large chemical supply houses, as well as the small companies and dealers, plead the inconvenience and hardship that the record keeping would entail, and object with indignation to the poison label on a bottle unless a dose or two from it will kill.

Physicians are licensed by the State for the express purpose of caring for the sick. The State does not dictate to its citizen what school of medicine he shall patronize, but requires the practitioners of all schools to qualify and receive licenses. This is a protection to every citizen.

Let me advise mothers to be certain that infants secure their natural food, which the healthy mother can give; or in lieu of that, pure, fresh milk from healthy cows, properly modified to suit the baby's age. "Hit or miss" drugging of all kinds is dangerous.

PLAIN TALKS WITH MOTHERS

BY

DR. S. JOSEPHINE BAKER

Don't Ask Your Neighbor's Advice

I WISH to give a few little talks to mothers on how to take care of their babies. During the hot days the mothers' task is harder than in any other time in the year. So I am going to try to tell you a few things that may keep your baby well at a time when so many babies are dying.

My first caution is, don't ask your neighbors to tell you what you had better do with your own baby. If you do that, I might just as well not give these little talks, for anything I might teach you may be undone by the guess work of some foolish woman next door.

Let me give you some reasons why a doctor or nurse knows better than your neighbor what

to do for a baby. Your neighbor may have taken care of six or seven children of her own in the little time she had left from her regular work. That is her whole experience. The doctor and nurse have taken care of hundreds of babies. That is their regular work. They have studied those babies carefully. Besides that, they have studied the experience of thousands of other doctors and nurses for a great many years past.

Caring for Baby's Health Is the Doctor's Business

Your neighbor may know more about sewing or washing or cooking or keeping house than the doctor does. That's her work. Taking care of baby's health is the doctor's work. He has spent years finding out the best way to do it. You wouldn't go to a baker next door and ask him how to make a dress. Then why do you go to a neighbor to find out how to take care of your baby?

No two neighbors will tell you exactly the same thing. That shows how much their advice is worth. They have had different babies. None of them knows your baby. No two babies are alike. What was good for your neighbor's baby may be poison for yours. Doctors and nurses have studied hundreds of babies and know how to tell one kind of baby from another. They can tell by studying your baby, which kind it is and what is best to do for it.

A Fretful Baby and a Woolen Shirt

One day a baby cried a great deal and seemed very hot and uncomfortable. It was the mother's first baby and she had no idea what to do. She asked her neighbor on her right what she had better do about it.

"My baby was just like that one day," said the neighbor. "The doctor said it was the heat. He made me take off the baby's clothes and wash it in cold water." The mother hurried home to take this advice and on the way met her left-hand neighbor. She told her about the baby. "Don't wash it in cold water. The heat made my baby sick one day and the doctor said wash it in hot water." While the mother was trying to decide which advice to take along came an old grandmother and looked at the baby. "That baby's got the fever," said the grandmother. "My John had the fever forty years ago this summer and the doctor gave him some fine medicine that cured him. I've got some in my old medicine case yet. I'll get you some."

But just then by good luck a nurse who was going by heard the baby crying, and stopped and looked at it. She found that baby was wearing a woolen shirt. It was too hot and of course very uncomfortable. She took it to the doctor, who found it perfectly well. After it had had a *cool* bath, not a hot or a cold one, and had been dressed properly, it went quietly to sleep. If the mother had taken the advice of any one of her honest neighbors her baby might have died.

Grandma's Methods Not Always the Wisest

Then again, most of your neighbors are likely to have old-fashioned ideas, particularly the older ones whom you are most likely to ask for advice. Our grandmothers used to believe in rocking babies, walking with them, jumping them up and down, clothing them too warmly, feeding them all sorts of things when they were very little, letting them taste of everything, giving them comforters to suck and keep them quiet, etc., and a great many of their babies died, a great many more proportionately than die to-day, since doctors and nurses have been learning better ways to take care of babies and teaching them to mothers.

Then your neighbor will advise you to give all sorts of patent baby foods to your baby. Only a doctor knows what food is best for your baby and when to give it. Neighbors will advise you to give all sorts of drugs to your baby when it is sick. Never give medicine unless a doctor tells you to. Many different kinds of diseases look alike to people who haven't studied diseases. Drugs that will cure one, will kill a baby that has another. Only the doctor knows which is which.

Only the other day I learned of a woman who has a blind baby because she thought a neighbor's grandmother knew better than the doctor. Her baby had sore eyes. A doctor gave her an eye-wash and told her how to use it. The next day a neighbor's grandmother came in and saw the baby. She told the mother to wrap a cabbage-leaf over the baby's eyes, as that was the best thing for it. So the mother threw the doctor's eye-wash away and did as the old woman told her. When the doctor came again, the baby's eyes were so bad that it was too late to save them.

If Your Baby Is Sick, Call a Doctor without Delay

Keeping babies well is the most important thing. I know many an unhappy mother is saying right here, "Well, that is all very well. My baby is sick already. I want to know how to tell when he isn't well. I can't always get a doctor right away. I can't go to a doctor every day. What should I do while waiting for a doctor? How can I tell when I ought to see a doctor right away?"

So before I go any further I am going to give you a few simple rules on how to tell when a baby isn't just right and what to do about it. It is ten times as easy to cure a disease when it is beginning as it is later on.

Thousands of babies die every year because their mothers don't know in time that they are ill. Thousands die because their mothers think when the sickness is beginning that it does not amount to much.

To-morrow is too late.

"All babies have days when they are not just right," they say. "I will wait until to-morrow and see if he is not better. If he isn't I will call the doctor."

When to-morrow comes it is often too late. One mother I know had a baby who every little while became ill slightly. At first she was alarmed and called the doctor, but the baby got well so quickly each time that after a little she stopped worrying and began to think these little attacks amounted to nothing. Finally she got so she no longer called the doctor. The baby kept on having these little troubles but always seemed to get over them as quickly, and seemed to be very well most of the time.

But the mother didn't know that each time this happened her baby was getting weaker. Finally there came a time when the baby didn't get well again as soon as it had before; instead it got rapidly worse, and yet the mother had grown so careless that it was three days before she called the doctor. And all the while she was giving the baby food that it ought not to have had at such a time. When she did get frightened enough to call a doctor it was too late. In one week her baby was dead.

Signs that Baby Isn't Feeling Well

Here are some of the signs that baby isn't feeling well: If baby's skin seems hot and dry he may have a fever. Go to a doctor at once and find out. Fever always means trouble and need of doing something at once.

If baby vomits there is something wrong. That usually means that nature is trying to get rid of something that isn't right. Perhaps it only means that you have fed your baby too much. If that is so you ought to know it. Overfeeding is very dangerous to a baby. If baby vomits take it to a doctor.

If baby is cross and fretful that too is a sign that he isn't feeling right. A well baby sleeps most of the time and is happy and contented when he is awake. If he suddenly gets to crying more than usual look for trouble.

When a baby won't nurse, or take his bottle at the regular time, there is surely something the matter. Find out what it is at once. A healthy baby should eat like a little pig and get terribly mad about it if he doesn't get his food right on time.

Lastly, winter and summer, look out for cough. You sometimes neglect coughs in grown people and they may not amount to anything, though neglect is dangerous. Don't do it with the baby. A cough may mean pneumonia, and when babies get that it kills them very quickly. There is no time to lose.

Summer Complaint Is Most Troublesome

The thing that makes most trouble is the so-called summer complaint. Over 5000 babies under 1 year old die from it every year in New York City alone. About 3000 die every summer. Yet this disease is preventable by learning a few simple rules about food and care. If it is neglected very long it is almost hopeless.

The first thing to do when you think there is anything wrong with your baby's stomach is to stop all food at once.

Don't nurse him. Give him two teaspoonfuls of castor oil.

Then call a doctor.

I have already warned you against taking your neighbor's advice. Let me repeat it here.

If for any reason you can't get a doctor at once, while you are waiting give the baby a sponge bath with cool water; dress him in fresh, clean clothes; keep him as cool and quiet as possible; never try to amuse a sick baby. Don't dance him, or walk the floor with him to keep him from crying. Give him plenty of fresh air. Keep him quiet until the doctor comes.

Mother's Milk Is the Best Baby Food

In my first talk I gave you some reasons why a mother is very foolish to ask her neighbor's advice about her baby if she can get to a doctor or nurse. I am going to give you to-day a doctor's first advice.

Nurse your baby if you possibly can.

If you do your baby has ten times as many chances of living as it would have if you fed it from a bottle. It has many more chances of growing into a strong, healthy man or woman.

For years doctors have been keeping count of babies' deaths, and studying the reasons why babies die. This is what they have learned:

Ten bottle-fed babies die before they are a year old to one that is fed by its mother.

Nursing babies who live are almost always bigger and stronger than those fed from bottles.

Grown men and women who were nursed as

babies are much more likely to be tall and strong than those who were not.

The races most in the habit of nursing their children are the strongest.

Some mothers are sick and can't nurse their babies. The doctor is the one to decide whether you can or not. Don't let any neighbor advise you about it.

If you can't nurse your baby, I am sorry for you. I am going to tell you some things in these little talks that will help you in feeding it.

Lazy and Selfish Mothers

But some mothers are too lazy or selfish to nurse their little ones. They had rather run the risk of killing their child than be bothered with nursing. They are not natural mothers. I can't help them. They don't deserve help.

Nature meant babies to feed from their mother's breast. If you try to cheat nature you are pretty sure to have to pay for it. And the price you pay is often your baby's life.

Mother's milk is the best and safest food for babies under one year of age. That is because nature planned it so and nature doesn't make mistakes.

Then the mother who doesn't nurse her baby because she is too lazy or selfish is really cheating herself, for it is much easier to nurse a baby than prepare food for it if you prepare the food right.

When you feed your baby as nature planned, you always have the best food with you, no matter where you may be with your baby. You cannot always get cow's milk. When you can, it may be bad milk. Remember that milk which may do for strong grown people, often makes a baby sick.

Impurities in Cow's Milk Mean Summer Complaint for Baby

Mother's milk is almost always good, clean and pure. You can never tell whether cow's milk is or not. Even the wisest doctor or nurse cannot always be perfectly sure. Nothing gets impure and bad for use more easily than cow's milk. Even if it is all right when you get it, you cannot tell how long it will stay so.

To feed your baby milk that is not just right is quite likely to give it summer complaint. More babies die of that than from any other one cause. Breast-fed babies very seldom have that trouble. Bottle-fed babies very seldom get along without having more or less of it.

You can see then why breast-fed babies are healthier, brighter, happier and less care than bottle-fed babies, and why they are generally larger and have a better chance to grow up into strong men and women.

I want to warn nursing mothers particularly about one thing:

A summer weaning may mean a fall funeral.

When it comes mid-summer your baby may be over a year old. You may think it is time it was weaned. Don't do it unless a doctor orders you to. If you are well it won't hurt you to nurse your baby till the dangerous hot weather is over and it will make your baby's chance of living much better. If you are not able to nurse your baby any longer, keep it under the doctor's care until it gets used to its new food.

If you can't nurse your baby entirely, it is better to give it one or two breast feedings a day than none at all. The rest of the feedings can be from a bottle carefully prepared. But if you want to give your baby its best chance to live and be strong, nurse it if possible.

Bad Milk Kills Babies

More bowel trouble among babies is caused by bad milk than by anything else. Bowel trouble kills more babies than any other cause.

Bad milk is poison to your baby.

In this talk I want to tell mothers just what we mean by good milk; how to get good milk and how to keep it good.

By good milk I mean clean milk.

If you see dirt in the bottom of a glass or bottle of milk don't use any more of that kind of milk. If you do it is quite likely that you will kill your baby.

But don't think that milk is clean because you can't see the dirt in it. Some of the dirtiest milk looks perfectly clean. It may be rich, and perfectly white, and have no dirt in the bottom of the bottle as far as you can see, and yet your baby may be killed by it as though you had fed him poison.

That kind of milk is full of little particles called bacteria. These particles are too small for any naked eye to see. There are hundreds and hundreds of them in one drop of milk.

Yet doctors have seen them with microscopes. You can see them for yourself if you can get a doctor to let you look at a drop of bad milk through a microscope.

These particles are alive. They grow in numbers very fast. If you feed them to your baby in bad milk they will grow in his stomach and bowels and make him sick.

Use Care in Purchasing and Keeping Milk

Any loose-dipped milk, like store milk, is unsafe. It is pretty sure to have bacteria in it, if it is open to the air. Milk sold in bottles is surer to be clean, because the air has been kept

away from it, and the bacteria have had no chance to grow.

Don't buy your milk at a grocery or delicatessen store, or any place where they dip it out and sell it to you loose. Bottle milk costs a little more but it is better to pay one, two or even three cents more for milk each day than to lose your baby by feeding him bad milk.

Milk that is shut up cannot get any bacteria or other dirt in it. Harmful bacteria cannot grow in numbers in milk that is kept cold.

So when you get your milk you must take care of it or it will soon get bad. Don't open the bottle or pail until you are ready to use it. Keep it on ice. Keep it in a clean place. Don't let it stand on the floor where the cat or the dog can rub around the bottle. Cats and dogs are very likely to have bacteria on their fur. Never let milk stand where flies can get at it. One fly may carry hundreds of bacteria to baby's milk.

Never leave milk standing on a sunny window sill or near the kitchen stove or in any other place where it can get warm. If you do the best milk will very soon get bad. Warmth sours milk, and makes it unfit to feed a baby.

Cleanliness—and Again Cleanliness

But you have no ice-box, perhaps. I will tell you how to make one that won't cost you anything. Just take a clean covered pail and punch small holes in the bottom so that the water can drain off as the ice melts. Put a piece of ice in the pail and then set the milk bottle next to it. Cover the pail with a clean blanket. Keep the pail in the sink so that it can drain the water. Keep the sink clean.

Remember this: Scrub your ice-box out with hot water and soap twice every week; if you don't your milk will get bad. Never leave milk uncovered in the ice-box, no matter how clean the ice-box is.

Let me warn you further. You may keep your milk perfectly clean, and then spoil it all by not keeping baby's bottle and stopper and nipple as clean as they should be. After each feeding you should rinse the stopper, nipple and bottle in cold water first. That gets the milk all off. If you put on hot water first it will sour the milk and make it stick. Every day at least once you should scour the bottle nipple and stopper with a brush, soap and hot water just before you put the baby's feeding in the bottle.

Care of Utensils

To boil the baby's bottles without cracking them, fill them with cold water, and set them in a pan with cold water. Then put the whole on the stove and boil for fifteen minutes. Keep the empty clean bottles turned upside down on a clean shelf so dust cannot get in them. Keep the boiled nipples covered in a clean cup of salt water that has been boiled. Change this daily.

All the basins, bowls, bottles and other things used for preparing and keeping baby's milk should not be used for anything else. You should fix baby's milk as early in the morning as possible. Before you begin you should wash off the outside of the bottle with cold water; then wash the top of the table and your own hands.

Everything that comes near the milk must be perfectly clean. Have everything ready, boiled bottles, stoppers, etc., before you take the cover off the milk bottle. Before you try to prepare the milk for your baby be perfectly sure you understand how to do it. The only way you can be sure that you understand is to have a nurse show you how once or twice. It is part of her work to teach mothers how to feed their babies properly.

What Not to Feed the Baby

I have told you what you should feed the baby. At the same time you learn some of the things you should not feed it. I have told you not to feed the baby anything but milk from your own breast, if it is possible for you to feed him that way. I told you too how to look out for bad milk when you had to feed your baby from a bottle.

There are a great many rules for feeding babies, particularly for the mother who has to feed her baby from a bottle. Remember, first of all, about not asking your neighbors' advice. Always go to a doctor or nurse; find out just what you should feed your baby.

Don't forget how to get good clean milk and how to take care of it so it will stay so. Keep the bottles and nipples and everything that baby's milk touches, perfectly clean by frequent boiling and leaving them standing in salt water or borax water when not in use.

Modifying Cow's Milk

If you must use a bottle for your baby, don't give him plain cow's milk. Cow's milk is much stronger than mother's milk and so too strong for a tender baby's stomach. Cow's milk must always be modified or mixed with water and other things that the doctor will tell you about. Don't try to modify the milk yourself until a doctor or nurse has shown you how. You might do it wrong and do your baby a great deal of harm.

If baby leaves a little milk in the bottle when he gets through feeding, never save it for the

next time. Never feed baby old milk, or milk that has stood after part of it has been used. It is very likely to make him sick, because the tiny bacteria I have told you about have had a chance to grow in it. It is better to waste a little than to run the risk of wasting your baby.

Don't feed the baby cold milk; remember the milk that nature meant baby to take is as warm as your own blood. If his little stomach has to warm the milk up for itself it is pretty sure to be harmed by it.

Keep Your Fingers out of the Milk

But never stick your finger in baby's milk to see if it is warm enough. Your finger may look perfectly clean but remember those little bacteria too small to see without a magnifying glass. There may be thousands of them on a finger that looks perfectly clean. If you put them in baby's milk they will grow there very quickly, and turn it to poison.

And worst of all, don't put the nipple of the bottle into your own mouth to see how warm the milk is. You can't tell what bacteria may be hiding in your mouth. You are grown up, and strong and well. There may not be enough of them to do you any harm. Yet there may be enough of them to kill your baby, especially when they have a chance to grow in his milk. Besides, you may be coming down with some disease that hasn't shown itself to you yet. Many a little one has taken consumption or diphtheria or some other deadly disease from a careless mother or nurse, who has insisted on putting the nipple of baby's bottle into her own mouth.

The best way to tell if the milk is warm enough is to dip up a little with a clean spoon that has just been in boiling water and hasn't had your fingers on its bowl since, then taste of the milk from the spoon and don't put the spoon back in the milk.

It is best always to taste a baby's milk before feeding it, not only to find out if it is the right heat, but to make sure that it is not sour. Never give your baby sour milk. It is very likely to make him seriously sick.

Don't Let Baby Taste Everything

Never feed a baby condensed milk or patent foods unless a doctor orders you to. Here is another place where your neighbor's advice is dangerous. Remember no two babies are alike. One child may do well on what kills another.

Then too, many of these foods lack the animal matter that gives baby strength. Your baby may grow fat on them for a time but does not grow as strong as he should. He is very likely to have rickets or scurvy if you feed him patent foods for a very long time.

Don't give your baby a taste of everything, as so many mothers do. Remember his little stomach is meant for nothing but milk or water until he is at least a year old. He should not get any solid food of any sort under that age. Don't give him any fruit except a little orange juice, when the doctor advises it; and don't give him that until after he is six months old.

Do not give the baby "tastes" of food from the table. Many babies have been killed that way. I have even known mothers to let their babies sip beer, whiskey and wine. Never give your baby anything with alcohol in it. Look out for soothing syrups. They, too, are dangerous.

Penalties of Over-feeding

Don't over-feed. Baby is not hungry every time he cries. There is more danger in feeding him too much than in feeding him too little. He may be thirsty when he cries. Give him a little boiled water that has been carefully cooled. You should give your baby his bottle regularly by the clock, and have the doctor tell you how often to do it. It is more important that your baby should be fed regularly than that you should have your own meals on time. When your meals are not regular you don't feel well.

Over-feeding kills more babies than under-feeding. Mothers are quite likely to give their babies too much, thinking the more they give them, the better.

Be especially careful in summer. Babies digest less than in the winter. The milk you give them in the summer shouldn't be mixed quite as strong as it is in the winter and don't give them as much of it.

Over-feeding causes vomiting or diarrhea or both.

Here again no two babies are alike. Have the doctor or nurse watch your baby and tell you how much to feed it. A good safe rule as to how much to feed a baby is to give a bottle baby, at each feeding, one ounce more than its age in months. That is, when a baby is one month old, give it two ounces; when it is two months old, give it three ounces, and so on. From nine to twelve months of age, he should take ten ounces. But remember always your own baby may need some particular quantity. The doctor will tell you just what to do.

Don't Feed the Baby Every Time It Cries

This talk is to the mother who nurses her own baby. I have already told you how important it is to feed your baby from your breast. the way we

ture intended. Only one breast-fed baby dies to ten who are bottle-fed. Yet why does the one breast-fed baby die?

Many mothers believe that if they nurse their babies they have nothing to learn. Nature, they believe, will handle their baby without any guidance, because they are not interfering with her laws.

That is not altogether right. True, it is ten times as easy to bring up a breast-fed baby, and yet more breast-fed babies die than ought to die. We are making the number of bottle-fed babies who die, less every year. We want to save breast-fed babies too.

As a matter of fact a nursing mother is likely to be a little careless. In the first place she often thinks her baby will cry when it is hungry, and therefore whenever it cries she nurses it. I have already told you not to give your baby food every time it cries. The same rule holds for the nursing babies. The little one should be fed regularly by the clock, whether it is a nursing baby or bottle-fed. You eat regularly yourselves, or you don't feel well. Why should you not feed your baby the same way? It is much more important that a baby should eat regularly than that a grown person should. If you nurse your baby a little at a time whenever it cries, it will get in the habit of feeding more and more often, taking a little each time, and never giving its little stomach a chance to rest. Besides that, it will wake every little while in the night and cry to be nursed. If the foolish mother does this the baby gets no chance to sleep soundly.

Counsels about Nursing

Never nurse the baby simply to put it to sleep. Never let him go to sleep with a nipple in his mouth. Give him cooled, boiled water between nursings and he won't be so likely to cry.

The nursing mother has a duty to consider, which is of much greater importance than that of the mother of a bottle-fed baby. She must take great care of her own health. If she is not well the milk from her breast won't be good. She should remember that what she eats also feeds her baby. She must not forget that when she is sick or tired her milk is not as good as usual, and her unlucky little baby feels it. Do not eat or drink things you know do not agree with you. They probably won't agree with your baby either. Keep your breasts clean by washing them before and after nursing. Remember a breast that is not clean may make the baby just as sick as a dirty bottle.

Watch your own habits in every way so that you will keep as well as possible for your baby's sake. Get exercise out-of-doors every day. Sleep eight hours every day and remember what I have told you so often before, above all things don't give your baby a bottle, or anything else without seeing a doctor first, and having him tell you just what to do.

How to Dress Your Baby

Having learned how to feed your baby right, one of the most important things for you to know is how to dress him. A great deal of harm can be done by dressing the baby too much—by that I mean putting too much clothing on him and having it too tight.

A great many mothers keep their babies too warm; they are too much afraid the little one will catch cold. Remember baby is a warm little body; warmer than old people and feels the heat much more.

In hot weather then you cannot be too careful not to have too much clothing on him—there is much more chance of his being over-heated than of his catching cold—at any rate too much clothing makes him restless and fretful.

Besides you must dress him right if you want him to get fresh air enough. Don't think you have given him enough fresh air by simply letting him breathe it into his lungs; his whole body needs it. You should dress him so that every bit of his tender skin should have a chance to breathe.

Baby's Clothing Must Be Loose, Dry, and Clean

More than that, tight clothing keeps baby's lungs from acting freely and hinders the movement of his blood. That means that no matter how well you feed him his food does not get a chance to build up the little body, and he will grow thin and weak and stunted. For baby to have rich blood he must have good air in his lungs as well as good food in his stomach. Rich blood to make baby grow must have a chance to circulate through his body.

Another thing which helps baby to grow is exercise—he must have plenty of chance to kick and squirm and throw his arms. Tight clothing hinders that.

Don't weaken your baby with tight clothing.

Baby's clothing, therefore, should be thin, light and soft. Don't bundle him. Don't starch his clothes. Don't put tight bands or garters on him. Hang his clothes from his shoulders with straps.

When baby is asleep all his clothing should be loose. Keep him warm enough but not too warm. If you overload him with covers he will not sleep

well. Without good sleep the baby can't grow up as it should.

Keep baby's clothing dry and clean. He should be watched and his garments changed as soon as they are wet or soiled.

Now that I have told you what kind of clothing to put on the baby some of you may want to know just what clothing he should wear in summer and winter.

In hot weather all the clothing that baby needs is a light slip and a diaper.

In cold weather these are the garments that he should wear—a cotton dress, cotton petticoat, light wool shirt, light wool stomach band, light wool stockings and canton flannel diapers.

There are many little tricks in putting baby's clothes on right after you have got them. The only way to learn these tricks is to have some one show you. The nurse should show the mother the best way to dress her baby.

Clean Up for the Babies

Dirt kills hundreds of men and women every year. It kills thousands of babies. Let me tell you why.

In the first place, by dirt I mean filth, matter that is left to lie around where it doesn't belong, where it rots and moulds—garbage, rubbish, dust and waste of all sorts.

This dirt is placed where the bacteria or disease germs I have told you about grow by the million. These germs cause most sickness.

Without dirt no germs can grow.

Flies feed on filth, then carry the germs to human beings.

Without filth there would be no flies.

Keep the dirt and flies away and you will keep away a great deal of sickness.

Think for a moment about this filth that is allowed to lie around in the streets, the cellars, the back yards, even, I am sorry to say, in the nooks and corners of some homes.

Would you like to have this dirt in your food?

None of you would.

And yet you do!

Every fly that comes around carries a little of it, and every time he touches your food he leaves a little of it there. Every particle of it is likely to have in it hundreds of microbes that may get into your stomach and blood, grow there and make you sick.

Some grown men and women, as I have told you, are strong enough to fight off these germs and keep well. Most babies are not. If there are dirt and flies around, the germs are pretty likely to get at your baby.

That is why I say—clean up for the babies.

Garbage Disposal—Laundering—Dust

Don't let any garbage collect. Garbage even when it is carefully kept in a pail is dangerous; the germs can breed there as well as though it was scattered around your rooms.

Don't let soiled clothes stay around long; remember, germs breed in them.

Wash the baby's clothes just as soon as they are soiled. Never leave any dirt or filth around your baby, if you want to keep it well. See that all cracks and corners of your rooms are kept thoroughly cleaned out. Go over your floors and woodwork with hot water frequently. Keep your drains and sinks thoroughly clean. You can do this by scrubbing wherever you can reach with hot soapsuds and by pouring it down the pipes. Every little while, too, you had better pour into your drains chloride of lime, or something else that you use to kill germs. Your doctor will tell you what is best to use.

Look out for dust. You are very likely not to notice the little dust that gathers under beds and behind curtains, especially in the summer-time. But dust is also a place for germs to grow in. Dust goes all through the air and carries these germs not only to your food, but into your lungs when you breathe the air.

One good way to keep the air clean is to keep your windows open as much as possible so that the old air does not stay in your rooms long. Let the sun into your homes as much as possible. Sunlight helps to kill germs.

The Omnipresent Fly

But it is not enough to keep yourself and your own home clean. Remember, flies can travel, and carry germs with them. If there is filth just outside of your door, on the stairs, in the yard or in the areaway, anywhere about your home or your neighbor's home, flies are going to carry the germs in.

Set a good example to your neighbors and get them to keep their homes clean. You know flies do a great deal of calling back and forth.

But a person can't always be sure of his neighbors. You may have neighbors who simply won't keep clean. One thing you can do, though, you can keep your neighbor's flies from visiting you and bringing his disease germs along with them. You should have screens in all your windows to keep the flies out; constantly fight the flies as you would the diseases themselves if you could see them coming, for remember the flies are disease carriers.

So you see, this matter of keeping clean is very important and it is not so simple as it may look at

first sight. Ask the doctor about it. You can tell him about your own particular home and the things around it and he can give you simple rules that will fit right there.

Water for the Baby

There is nothing more important for baby's health and comfort than plenty of water inside and out. But it is equally important that this water be given just right. In this talk I want to tell you why water is important and how it should be given.

First let me speak about baby's bath. I have already hinted in my talk on keeping clean at one of the chief reasons for bathing the baby. His delicate little body must be kept very clean all the time.

Remember what I said about disease germs growing in dirt. Don't let dirt stay on your baby till disease germs grow there and make him sick. Constant bathing removes dirt before germs have a chance to grow.

Then, too, the skin is full of little openings called pores, too small to be seen without a microscope. These little pores give off waste matter. We only notice this waste when we get very warm and it gathers in drops that we call sweat.

Now if you let your baby's skin get clogged up with dirt this waste matter cannot escape so easily. Much of it will stay in his body. When waste matter cannot get out of the body it is pretty likely to make the body sick.

A Tub Daily

So this is the second reason for bathing your baby regularly, that he may have a healthy skin that will act freely and so help to keep him well.

You should therefore give your baby a tub bath once every day. Until the baby is three months old the water should be the same heat as the blood. It is safest to have a small thermometer and see that the water is about 98° before you put the baby in. After three months in very hot weather, you can bathe him in water that is much cooler. Be sure, though, that it is not chilly. If the baby has a fever, a cool bath, not a chilly one, will put him to sleep.

In hot weather, besides the tub bath you should give your baby several cool sponge baths during the day.

Baths should always be given in a warm room. Never leave baby in the water over three minutes. When you take him out dry him thoroughly, and do it quickly. If his skin is tender, put a handful of salt to a gallon of water used for the bath. Whenever his clothing is soiled you should wash him carefully when you change him.

Water to Drink

So much for water used as a bath for the baby. Now just a word about giving baby plenty of water to drink.

I have warned you that a baby is not hungry every time it cries. It often merely wants water. Restlessness and peevishness are very often due to thirst, and after a drink of cool water the baby will go quietly to sleep.

All the water you give your baby should be boiled and then cooled. But don't give it to the baby ice cold. The baby should have two or three teaspoonfuls at a time. Give it to him as often as once an hour, if he seems to want it. Don't do what some foolish mothers do, though, and put sugar in this water. Sugar is a food and makes his stomach work. So by giving him sugar whenever you give him water you are really feeding him too often. He gets enough sugar with his regular feedings.

Drinking water not only quenches baby's thirst, but it helps to keep him cool, and aids his little body in digesting his food and throwing off waste matter. Don't be afraid, then, of using water, but be sure you use it right.

Rest, Exercise, and Fresh Air

Let your baby rest. Nothing seems harder to make a mother understand than this.

So many mothers think it is their duty to rock the little ones to sleep, to amuse them by jumping them up and down, or by trying to make them walk before they are ready, and to walk the floor with them whenever they cry.

Let me tell you something. All these things do your baby no good. They may make him very unhappy. And they use up a lot of your strength that you need for better things. If your baby is never taught to expect these things, he will never cry for them, and he will be better off without them. Constant movement and jar are likely to hurt the baby's nerves and digestion.

Of course, it is great fun to play with the baby. I can't blame you for wanting to do it. But any kind of exciting play is likely to be bad for a very small baby. Don't jounce and jump and ride him on your foot. Don't try to make him stand on his feet or walk. When his legs are strong enough to do that he will try for himself. If you force him to stand or walk too soon you are likely to strain his back and bend his little legs.

Leave Him Alone

It is best for a very young baby to leave him alone as much as possible. If he is a bottle baby it is wise to leave him in his crib even while feed-

ing him. If you nurse him put him back in his crib immediately after you get through. Baby should sleep eighteen out of twenty-four hours the first three months of his life. Let him sleep alone where there is plenty of fresh air. Many mothers like to hold their babies in their arms while they sleep, and have them sleep in their bed with them at night. This is not good either for the baby or the mother.

Don't worry about a small baby getting exercise. He will attend to that himself. Crying is the little baby's natural exercise. It fills his lungs and exercises all the muscles of his body. But of course he should not cry all the time. Too much crying is caused by pain, hunger, discomfort and temper. All of these can be cured. If you think your baby is crying too much see a doctor about it. If he is not hungry or thirsty, and his clothing is comfortable, he may be in pain. That's for the doctor to find out. If his crying is just bad temper leave him alone, and he will get over it when he finds that you don't try to humor him.

As he gets older he will exercise his limbs more and more. See that his clothing is loose and comfortable, or if it is very hot weather take it off. Then lay him on the bed and he will exercise for himself.

Bad Effects That May Result from the Use of Comforters

Another mistake mothers make in trying to amuse their babies and keep them quiet is to give them something to put in their mouths. Never let a baby suck a nipple unless he is getting food from it at the proper feeding time. These nipples on strings, called comforters, that so many foolish mothers give to their babies are very bad for them.

They fill the baby's stomach with wind. They pull his mouth out of shape. They make his teeth crooked. They spoil his good looks. Comforters are very likely to be dirty and so will make a baby sick.

It is only a selfish and ignorant or an unkind mother who will amuse her baby in ways that hurt him, simply to save herself trouble.

Care of Baby in Winter

This is the last of these little talks. I have tried to cover every point that is necessary for a mother to care for her baby in summer-time. Don't think when the summer is over that the hot weather dangers are past. September is one of the worst months in the year for summer troubles.

But I want these talks to be useful to you all the year round. Nearly everything that I have told you in them has as much to do with winter as with summer. You should be just as careful to have a doctor or nurse watch your baby in the winter as in the hot weather. Your neighbor's advice is no better in cold weather than it is in hot weather. All the rules for feeding, exercise, fresh air, cleanliness, use of water that I have given you should be followed all the year round.

Of course, winter has its own peculiar dangers. You should dress the baby warmer in winter. His clothing then should consist of a cotton dress, a cotton petticoat, light wool shirt, a light stomach band, light wool stockings and canton flannel diapers. However, even in winter there is danger of having baby too warm. You are also likely, if you are not careful, to be afraid to let him have enough fresh air.

Pneumonia to Be Guarded against

In the winter the great danger to babies is pneumonia. Watch your baby carefully, and if he has any sign of a cold take him to a doctor at once, especially if he has a cough. What seems to you a little cold may grow into pneumonia in a few hours, and if you have neglected it, it is likely then to be too late.

Be sure that the room is always warm enough when you bathe your baby. Dress him warm enough but don't bundle him so he will sweat. Never leave wet clothing on him. Don't leave him in a draught. Be sure that he is warm enough while he sleeps and yet don't have him sleep in a close room. Have your doctor show you how to fix your windows at night so that there will be plenty of fresh air in the room without having a draught blow on the baby. Take him out of doors every day.

A good way to be sure your baby is kept covered up at night is to make his blanket into a sleeping bag. You had better ask a nurse to show you how to make this.

One more bit of advice for both winter and summer. The best way to know whether your baby is well is to see if he is gaining in weight every week. You should weigh him regularly and keep a weekly record of his weight.

NURSERY ESSENTIALS AND SUGGESTIONS

BY

CECILIA FARWELL

Weighing the Baby

It is important that accurate records of weight should be kept, as this is one of the tests as to whether or not the child is being properly nourished. Scales of the variety seen in ordinary grocery stores can be secured for about three dollars. One with a scoop and a platform with weights can be best used, as a child should be weighed with as few clothes as possible. It is well to lay a woolen shawl or blanket in the scoop and weigh this separately, and then plan always to wrap the child in this garment, subtracting the weight of the garment each time. In this way it is possible to have an accurate record.

The child should be weighed every day for the first few weeks; after that weighing may be once a week. If there is any question of loss of weight more accurate records must be kept. The child should be weighed at about the same time every day, preferably after his bath, when it will be most convenient to do so. If he is weighed just after a meal there may be a difference of several ounces and the records will be of little value. A chart for keeping a weight record can be secured from the physician. This record is very important, as it is the only sure test as to whether or not the baby is gaining. Weight and temperature records should be put into the physician's hands, if it is necessary to consult him about the baby.

Temperature

A baby thermometer is one of the necessities for the nursery equipment. The nurse usually takes the baby's temperature twice a day at first, and before leaving she instructs the mother how this is to be done. A record should be kept of the child's temperature. This will serve as a quick explanation to a physician in case any difficulty arises. Temperature in a child usually means far less than in a grown person and yet it is one of the indications of well-being. Mothers should not regard the taking of the temperature as too serious or be over anxious in regard to variations, but should keep this record merely as a matter of precaution. A rectal thermometer with a large bulb, rather than an ordinary sharp-pointed one, may be used. Put oil or vaseline on it and insert very gently and hold carefully in place until the temperature is taken. It will not be long, however, before baby will protest, and in normal conditions the temperature can easily be taken under the arm.

The Head

When a child is born the head may be slightly out of shape as a result of passage through the birth canal, but nature usually takes care of this. Sometimes by gentle manipulation the head can be moulded and shaped; the nurse in charge during the first two weeks will understand how this is to be done, and great care must be taken. The baby should not be allowed to lie too long in one position, as the soft skull may become flattened and sometimes the head turned to one side, a defect which it will be difficult to remedy in later weeks.

On the top of a new-born baby's head is a little soft spot that is known as the fontanel. Great care should be taken not to touch this spot roughly or to allow anything to strike the baby on the head. What seems the softest sort of a touch may cause permanent injury. This spot is open and very delicate for months. The time at which it closes varies from fourteen to eighteen months; at two years it should be entirely closed in a normal child.

During the first three months the child's head should be supported in lifting, as the muscles are not strong enough to hold it, the weight of the head being out of proportion to the weight of the rest of the body. Permanent injury may be done by failure in watchfulness in this direction.

The Care of the Ears

A new-born child is apparently insensitive to sounds, and his sense of hearing is sometimes two or three days in developing; but he soon becomes exceedingly sensitive to any disturbance or sounds, and for the sake of both the child and the mother the nursery should be a place of quiet and harmony. A child soon becomes accustomed to ordinary household sounds and these will not disturb, nor should others in the family be made to feel that the presence of the baby imposes upon them too many restrictions of "being quiet."

If there is the slightest tendency to running in the ear, the physician should decide what is the required treatment, and no experiments should

be tried. The trouble may be very slight indeed, in which case the physician will soon discover the fact, while if there is serious inflammation or soreness the very remedies suggested by kindly neighbors may irritate and complicate.

The Care of the Eyes

Care should be taken that a little child is not exposed to strong lights, as the eyes are then very sensitive and may be permanently injured. We have before emphasized the care which should be taken of the eyes of a child at birth.

In case of any soreness or inflammation the eyes should be washed with a solution of boric acid, and great care should be taken against infection. If there is the slightest discharge from the eyes extra precautions must be taken.

This discharge is extremely contagious to adults as well as to children. Upon the least indication of the occurrence of an inflammation the eyes should be frequently bathed with a warm boracic solution and the physician informed. Avoid irritating the eyes by rubbing, but carefully separate the lids so that the water may enter and flush out all discharge that may be under the lids, being careful to so hold the infant and direct the water that it may run toward the outer corner of the eye, where absorbent cotton may be held to receive it. When through immediately burn any cotton or cloths that may have been used and disinfect hands at once. If only one eye is affected use every possible precaution to prevent the contagion entering the other eye. The child must lie on the side of the affected eye. The important point in the treatment is to thoroughly and frequently cleanse the eyes. A physician should always be consulted promptly, without waiting to try experiments or home remedies, as delay may mean permanent blindness.

The eyes of the child should be protected from the sunlight when out-of-doors. It is not an uncommon thing to see a child lying in a carriage crying, with the light shining directly on its eyes, the nurse—sometimes the mother, be it written with regret—trying to soothe the cries, and failing to change the one simple thing against which the child is protesting—the sunlight in its eyes. There is no doubt but that a great deal of the trouble which adults have with their eyes is due to carelessness and ignorance in these first months of babyhood.

Crying

What conditions cause a baby to cry? They are as follows:

1. He is hungry.
2. He is thirsty.
3. He is in pain.
4. He wants attention.
5. He is sleepy.
6. His napkins are wet.
7. He is tired of lying in one position.
8. He is frightened.
9. He is exhausted.
10. He is crying from temper.
11. His clothing is uncomfortable.

1. *He is hungry.* — The cry of hunger is a continuous one, accompanied by sucking of the fingers. The cry stops immediately when baby gets his food.

2. *He is thirsty.*—This cry is generally continuous and stops when baby is given a drink of water.

3. *He is in pain.*—If in pain from a pin pricking him, the cry is sharp and continuous. If from colic, the cry may be spasmodic, accompanied by drawing-up of the knees and turning the thumbs inside the closed fingers. Teething is a frequent cause of crying from pain.

4. *He wants attention.*—Baby very soon finds out that he likes attention. When he is laid down alone or the mother or nurse goes out of his sight, he sets up a cry for renewed attention; he wants to be cuddled or rocked. If he does not get just what he wants, he will cry. His cry will immediately stop when he is taken up, held, or rocked. Oftentimes as soon as he sees his mother coming to him his cries cease; in other words, he is rapidly becoming a "spoiled" baby. One cannot begin "too young" to train a baby. We often hear the remark made by some dear old grandma or loving mother: "Oh! he will grow out of it," or "Wait until he grows a little older and understands what you say to him." If you do wait a few months, you are lost. Begin when a baby is born to make him understand that you mean what you say; you are the one to be obeyed; it is for your child's good. We now come to the treatment, as it were, for a baby who cries simply because he wants attention, which is: Baby must cry it out.

One of the hardest trials of a young mother's life is to hear her baby cry and not "give in" to him. After baby has cried it out two or three times he soon finds that, no matter how hard he cries, no one seems to care, so he stops crying. Oftentimes one good "cry it out" will be all that is necessary. If a baby is not born with a rupture and wears a good, firm, supporting flannel band, there is absolutely no danger of crying causing a rupture.

5. *He is sleepy.*—A baby will often fight against going to sleep. He will cry a few good

cries, which finally become weaker, and with a little moan or a long sigh baby is asleep.

6. *His napkins are wet.*—When baby cries, always examine the napkins, and change them if they are at all damp.

7. *He is tired of lying in one position.*—In very young or weak babies who are unable to change their positions themselves, we find that changing their position—laying them on their other side—often stops their crying.

8. *He is frightened.*—Babies from six months to two years old will often wake suddenly, and frightened at finding themselves in a dark room, or by a bad dream, will cry out in a shrieking voice. They should be taken up or talked to in a soothing way, and placed back in bed again. This generally suffices.

9. *He is exhausted.*—Crying from this cause is usually a low, moaning cry, and is seen in very ill or weak babies.

10. *He is crying from temper.*—This form of crying is seen in older children; they cry loudly, swinging their arms and kicking their feet. Tears in babies are generally supposed to indicate pain, but I have seen a baby cry real tears from nothing but temper. Tears do not usually show themselves until after the baby is one-and-a-half to three months old.

11. *His clothing is uncomfortable.*—Often baby's band or napkin becomes wrinkled and hurts him. Take him up, smooth his clothes, and he will stop crying if the cry was occasioned by uncomfortable clothing.

A young infant cries quite a little; it is healthful for him to cry and is a part of his daily exercise. If a baby cries, go over the list of causes that are above enumerated, and if he is not crying from any cause except the "wants attention" cause let him cry it out.

A writer in the "Hospital" has said: "In children a great change takes place during crying in the manner in which the respiration is carried on. During expiration the glottis is contracted so that intrapulmonary pressure rises considerably, and there can be but little doubt that it is the equal distribution of this increased air pressure throughout the whole of the chest, leading to dilation of portions of the lung that have become more or less collapsed, that is the explanation of the great benefit which often results from crying, in cases of infantile bronchitis, and of the large discharge of bronchial mucus which so often follows. Children may become very blue during the paroxysm, but the deep respirations which succeed quickly restore the circulation to a better condition than before, in consequence of the larger lung space available."

Giving the Baby Water to Drink

The system of the little child demands water just as does that of the adult. What we term "food" for the child, that is, the milk either from the breast or bottle, does not meet its demand. We ourselves realize many times that a drink of milk does not satisfy thirst, and that ordinary food sometimes increases thirst. Since the digestive organs of the baby are fitted to take care of milk as food, it is reasonable to assume that the demands of the system for water must be made in another way. The mother should have an extra nursery bottle and nipple, and when the child cries, about two ounces of water (for the very little child) should be given at about the temperature of breast milk. As the child's sense of taste is dull, he will not know the difference, and the water will meet the craving in the system which has caused the unrest; provided, of course, he has been properly fed at regular times. Later, and very much earlier than the mother realizes, the child can drink water from a small glass, and it should be given him at frequent intervals. He is not likely to drink if he is not thirsty, but when we realize how torturing thirst is to us, we should not allow the little child, who cannot express his need, to suffer in this way. Frequently a drink of water will relieve an unaccountable restlessness or fretfulness, and it may be quite a safe rule always to offer the child a drink as a first, rather than a last, soothing measure.

The Evil of the Pacifier

The sucking of a pacifier or "comforter" is injurious in the extreme, and a baby should never have one. The sucking causes a continuous flow of saliva at times when it is not needed to digest the food. When the saliva is needed for the digestion of food, there is less than the necessary flow as a result. This state of affairs produces indigestion. The sucking, too, changes the shape of the gums and is often responsible for protruding teeth.

The greatest of all evils is the change produced in the muscles that form the roof of the throat. Much blood is drawn to these parts by the continuous sucking. The muscles become abnormally developed, which is the beginning of a growth that often results in adenoids. Sucking the thumb is equally vicious in results. The child that has been in the habit of going to sleep with the pacifier will cry without it; but that does not matter—let it cry. It will cry only a couple of times until it realizes that crying doesn't help the matter any, and then it will fall into the custom of going to sleep without it.

A Soothing Touch

When the baby is fretful without apparent cause, slide your hand up under his shirt and rub his skin all over. His flesh is more tender than yours; and can you imagine much worse torture than to lie all day in "itchy" flannels and never be able to pull down your shirt or rub? Make it a rule to rub the baby every time his napkin is changed.

On stormy days or providing you have no proper place for baby to sleep out-of-doors, open all the windows of a room an hour or two before nap time, so that the air may be as nearly perfectly pure as possible, and let him sleep there with wraps on as if out-of-doors.

Call the Doctor

Teething rarely causes serious illness. If the child seems to be ill, do not put it down to teething, but consult the doctor. As soon as the baby has diarrhea or vomiting, stop all food at once and give only boiled water or clear barley water until the doctor sees the baby.

Simple Precautions

Give the baby pure fresh air day and night and keep the windows open but screened to exclude flies and mosquitoes.

Keep the baby in the open air when possible but avoid the sun during hot weather. Select the shady side of the street.

Keep the rooms free from soiled clothes and rubbish.

Do not encourage the baby to play with cats or dogs; they often have disease germs in their fur.

Do not let the child crawl around on a dirty floor or dusty carpet.

Do not let the child put playthings into its mouth.

Begin Right

Train the baby into good habits. Do not get the child into the habit of expecting to be carried about if it cries. Train the baby to go to sleep by itself in the dark. A well-trained baby makes a well-behaved child.

An Oil Bath

A delicate baby can be made fat with an oil bath applied every day after the water bath. For the oil bath use a tablespoonful of warm olive or cocoanut oil, rubbed in well with the flat of the fingers over the entire body. Take an upward direction on the limbs and back and a circular one on the chest. On the abdomen use the circular movement, also, following the direction of the bowels, as follows: Begin on the left side, going across the lower part, up the right side, crossing above the navel, and going down the left side. This rubbing over the bowels is good for colic, as it will help expel gas.

Over-Stimulation

A little child should not be handled, caressed, rocked to sleep, trotted, or walked the floor with. When you have made sure of his comfort, that his little hands and feet are warm enough, and that he is occasionally moved, in order to give him some exercise, he should be allowed to rest quietly. If this is observed from the very first day there will be little difficulty in the later months. Fond relatives and interested neighbors should be given definitely to understand that the health of the child is the first consideration, and should not be allowed to disturb him by picking up and cuddling.

It is possible to love a little child just as much by standing near and looking at it, as by subjecting it to caresses and holding it in one's arms; and a child, if it could protest, would do so quite as vigorously as we would protest against a giant picking us up for his own amusement.

A child pays a heavy price in nervousness in later years for the transient amusement which it furnishes to others during these first months. Even the mother should restrain her impulses to play with the child, as every demand made upon its nervous force is so much taken from its strength.

A Few Moments' Play Sufficient

A few moments' play, which should be in the form of exercise for the child, should be practically all that a conscientious mother should allow herself. This rule should hold rigidly until the sixth or seventh month; after that more latitude can be allowed, especially as regards the children of the household, but care should be taken that play stops far short of even tiredness, and it should never take the form of excitement or extend to fatigue.

I remember seeing a child of one year tossed from one grown person to another, the grown-ups laughing, and the child shrieking with excitement. To a protest, the mother answered, "Why, they would not hurt her for anything! See how careful they are of her." The mother quite lost the point of the protest. Those grown-up people were amusing *themselves,* not the child; they had nothing else to do for the minute, and this seemed an exciting form of play. Nor was it a new one. The manner varied but the child

was always in demand. Three years later, that mother lamented: "I cannot think what makes Mary so nervous. It seems that no matter what I do for her this condition continues. You know that we came to the country on her account—the doctor thought that would help, but it does not seem to do so."

The Nursery Chair

Caring for the baby's soiled clothing is one of the problems of the mother. This can be greatly simplified. The one rule which should be made from the very first is that damp diapers should not be used twice without scalding. A good plan is to have convenient a covered pail of water in which is dissolved some simple disinfectant, and to put the diapers into this as soon as used. They may then be left until attention can be given to them. On no account should they be hung in the nursery to dry. Too often there is a tendency to take advantage of a nursery fire and make a diaper-rack of the screen. Sometimes, too, those which are slightly damp are hung here in order to use them a second time. They should always be scalded after use. Fresh air is one of the best disinfectants and whenever possible clothes should be dried in the open air.

While it is sometimes impossible, for the first few months, to avoid wet diapers, care and patience on the part of the nurse or the mother may very soon do away with the need of attending to this item. When, however, this is necessary, special precautions should be taken. The diapers should at once be taken out of the nursery, and thoroughly rinsed, after which they should be put into a separate pail from those merely damp, in which also disinfectant is dissolved. It requires but little effort to keep them separate, and great trouble is spared for the person who must finally handle them.

Advice from Dr. Holt

Dr. L. Emmett Holt says of the two months' child, "A small chamber, about the size of a pint bowl, is placed between the nurse's knees, and upon this the infant is held, its back being against the nurse's chest and its body firmly supported. This should be done twice a day, after the morning and afternoon feedings, and always at the same hour. At first there may be necessary some local irritation, like that produced by tickling the anus, or introducing just inside the rectum a small cone of oiled paper or a piece of soap, as a suggestion of the purpose for which the baby is placed upon the chamber; but in a surprisingly short time the position is all that is required. With most infants after a few weeks the bowels will move as soon as the infant is placed on the chamber. It forms the habit of having the bowels move regularly at the same hour, which is a matter of great importance in infancy and makes regularity in childhood much easier."

The child may be carefully held on the nursery chair, almost as soon as it is old enough to take a sitting posture—long before it is old enough to sit alone, which is the attainment which many mothers await before trying to train for the nursery chair. In training the child for the use of the nursery chair, care must be taken that the hole in the seat is not too large, as permanent injury may be done. A good plan is to take a bit of heavy cardboard and cut a hole of the correct size, and then carefully pad this in order that the child's tender flesh may not be cut; this can be made larger as need arises, the padding to be frequently changed.

It is not long before the child understands the use of the nursery chair, and long before he is old enough to talk he will learn to indicate by some sign when the impulse for its use is felt. It is possible to avoid both damp and soiled diapers after the first five or six months if the matter is carefully and patiently looked after, and the great gain in time, strength, and energy after this period will make up for the care taken during these first months. When a child begins to creep it is very desirable that such clothing should be worn as will properly protect it, and regular habits of bowel action in this direction will greatly simplify the mother's problems in regard to clothes.

The Baby's Box

The mother who must care for her baby and at the same time do her own housework will find a simple and inexpensive "baby tender" of great help to her. This she can make herself. A box about three feet long and two feet wide, with sides about two feet high, can be secured from the grocer and put on rollers so that it can be conveniently moved from one room to the other. This box should be padded carefully on sides and bottom to protect from draughts, with the padding curving over the top so that there are no hard or rough places on which the baby can be hurt. Over the padding each day may be put a clean sheet, which should be carefully fastened by safety pins to the padding, that it will not give way under the little clutching hands and cause the baby to fall.

The box can in this way be kept sweet and clean at all times. If necessary stork-sheeting can be laid under the sheet. A baby pillow should be put in the box, with a few simple toys,

and the baby will then play happily for hours, and fall asleep when he is tired. The mother may go about her work, stopping occasionally for a smile and a tender word, making sure that all is well with the little one, and keeping watch on the clock that feeding time may not be forgotten; and thus "caring for the baby" is made a very light task indeed. A little child of five or six months may be put into a box like this and the rollers on the box enable the mother to take it from room to room and so keep the child with her, and at the same time have him protected from cold and draughts.

The Baby's Toys

The arrival of a new baby is the signal for all of the relatives and friends to buy rings and rattles. In a few weeks an admiring uncle may come in with a toy engine or a shrieking jack-in-the-box. These gifts spring from real affection and may be acknowledged gracefully and sweetly by the mother and put away in a drawer, where they may stay forever without great harm.

The simpler the toys given to the baby the better for the baby. The brain of a little child can register but few sensations and every demand made upon it beyond this limit is a tax and a nervous strain. Insisting upon flourishing a rattle before the baby is to amuse ourselves by his starts, but we are blind indeed if we fail to see that it neither amuses nor benefits the baby.

The child, getting his knowledge through the senses, unconsciously tests each new impression, and when he has touched, seen, and maybe listened, to the new object, it straightway goes into his mouth. This is a natural impulse, growing out of the logical order through which the child gains his knowledge of things. For this reason we should be careful of those things given him. They should not be small enough for him to put into his mouth, and perhaps cause life-long injury, or for him to swallow and run the risk of choking. Painted toys may mean sore mouth, or even poison for the little investigator; while the toy which is dropped on the floor and picked up by a careless child (or, we have even known mothers to be equally careless), straightway finds its way to the child's mouth again, with results that may be left to the imagination. It seems almost superfluous to warn mothers against this fact, and yet how many times we see mothers who do this very thing.

Rubber Rings for Teething Are Not Advisable

It is not advisable to give rubber rings to the child who is cutting his teeth. Little teeth find their way through, by natural means, and cause less pain in the end if they are allowed to do so; and the rubber rings, which the child tries to get into his mouth, deform and misshape it. The "baby tender" suggested in these articles will be found of great advantage in that the child drops the toy upon the clean floor of his box, and so does not gather dust from the floor. As the child grows older more toys may be given to him, but these should still be very simple. Blocks are most helpful and instructive, and it is no exaggeration to say that a box of blocks of varying sizes is all that the child needs in the way of toys for the first three years. Perhaps we might add to this the rag dolly or the doll to cuddle and love; but mechanical toys, and the different painted soldiers, and the jumping-jack and all the rest of the collection which we are likely to think a necessary part of the nursery equipment, may well be conspicuous by their absence.

The Creeping Baby

Many careful mothers feel that the creeping period is the most difficult time. The old fashion of putting the baby down to crawl around on the floor and follow its own sweet will, seems, according to our modern knowledge of germs and disease, a great mistake. Many avoid the inevitable dirt of the floor by putting down a thick pad, but it is not long before the child refuses to be limited by this boundary, and is out on the floor and "into everything," as well as running the risk of being stepped on.

For this reason it is better to have a little fence in the form of a pen, into which the child can be put. This can be protected from draughts in a way impossible when the child is on a pad or is allowed to crawl around on the floor. While the space of the pen is limited, after all the baby is very little, and he will get the exercise which he needs. He will also very quickly learn to pull himself up by holding on to his fence, and this makes a more secure support for him than the rocking-chairs which give away under his touch, or perhaps the table, where he catches a cloth and brings down the things on the table on his head. The baby will walk around and around his little pen, and will learn to walk himself, whereas the child ordinarily has to have assistance and attention from adults.

Physicians agree that none of the various devices called "baby-walkers" are good for children. The positions which children take on the saddle are very likely to injure delicate organs; whereas the child in the pen, if the floor and sides are properly padded, can come to no possible harm.

When Baby Walks

"At the beginning of the second year baby will very probably attempt to walk. Perhaps he is only at the crawling stage, and, if he is at all fat and heavy, it is better that he should not begin to walk until perhaps fifteen months old. It is often wise not to allow a child to walk even when he wishes to make the attempt.

"When baby is rickety, for example, the bones are soft, and by the time he is twenty months or two years, his legs may be markedly 'bandy.' The average healthy child, however, walks early in the second year, but many children who are perfectly strong do not make any attempt until they are sixteen or eighteen months. The child should not be *taught* to walk. He will walk when his muscles, ligaments, and joints are capable of supporting him. If he is encouraged to make an effort before he is physically fit he may suffer from weak ankles, knock-knees, or bandy legs for a long time afterwards."

A Physician's Word

"So, at the beginning of the second year, allow baby to creep as much as he likes. He may be put upon the floor with a few toys, if he is warm and comfortable, and protected from draughts. A little knitted 'overall,' composed of stockings and drawers, fastened round the waist, is excellent for protecting the child at this stage, and any floor draughts must be prevented by seeing that doors and windows are properly fitted.

"A child should never be allowed to crawl indiscriminately through the house. For one thing his hands collect all the dust that is about, and as the average baby delights in sucking his fingers, germs find their way into the body to a certainty. To keep him from crawling to unsafe regions when the mother's eye cannot be all the time on him, a little pen is excellent. These are made of wood in the form of a cage without the top, inside of which baby is perfectly safe and perfectly happy with a few toys to amuse him.

"Once baby begins to walk, he very quickly makes progress. When he has made two or three steps he gets on quickly day by day, and the great danger is that he is allowed to overtire himself in his new accomplishment. The child tires very quickly and becomes fretful, peevish, and miserable unless he is made to husband his energy. Extreme muscular fatigue has a very bad effect upon the child's nervous system and health.

When to Consult a Doctor

"Any signs of weakness of the legs, such as bending or turning over of the ankles, mean that a child should be kept off his feet almost entirely until the parts are stronger. It is somewhat difficult to do this, as the ordinary child likes to be upon his feet as soon as he can walk.

"In summer-time, baby can be allowed out into the garden to walk about the grass, as there is very little risk of injury, even if he tumbles down two or three times. The danger is rather in the house, where sharp edges of furniture may produce quite serious bruises and cuts. To avoid this, round tables and light furniture are best in the nursery, and only those that are absolutely necessary should be retained when baby begins to walk. A padded ottoman box makes a comfortable couch, a safe piece of furniture, and a useful receptacle for nursery toys. A round-topped table is better than one with sharp corners, and the chairs can be of the basket-cushioned order.

"During the second year it is better to keep baby in the perambulator when out-of-doors, although he may be allowed out for a few minutes at a time when it is perfectly dry underfoot just to stretch his legs. Even at the end of two years baby should not be allowed to walk more than a quarter of a mile at a time. If, after eighteen months or two years, baby still shows no attempt to walk, the doctor should be consulted."

Baby Carriages and Go-Carts

One of the early considerations in the equipment for the care of the child is that of a baby-carriage. If the right sort of a carriage is purchased in the beginning, it can be made to serve for many purposes. It will be found admirable for naps on the veranda, and will be a great help to the mother when she must move from room to room and there is no one to care for the very little child.

In the selection of this carriage many things must be taken into consideration, and the baby's well-being, rather than the fad of the day, should come first. The old-fashioned willow buggy, which could be converted into a bed when necessary, is better than the popular English adjustable go-cart so commonly used of late years. The adjustability of this carriage has its advantages, but all are difficult to adjust to comfort, and in the case of the very little baby spinal trouble and nervous disorders are likely to result when an uncomfortable carriage is used. The mother should be careful, too, about too early displacing the baby-carriage with the springless go-cart. Too often one sees a tiny child strapped into one of these street go-carts, which becomes a veritable instrument of torture when a little child is obliged to sit still in it for long at a time. They

are, of course, more convenient for going about in crowds, and are a real advantage with older children who tire very quickly on long walks; but until the child is old enough to run alone for a part of the time, and so rest through change of position and action, the carriage is the best vehicle for general use.

The Second Summer

The dreaded second summer need not be feared if reasonable precautions have been taken, and the child fed correctly. The bottle-fed baby is in nine times as much danger as is the one fed by the mother, which is a fact that every mother should take into consideration before definitely deciding not to nurse her child.

One of the contributing causes of trouble during the second summer is that the child is now old enough to begin to be experimented upon with other foods, and too many mothers are apt to give little bits from the family table. Many a digestion has been ruined for life by indiscriminate feeding at this time. This is one of the hardest things for the young mother to stand out against with devoted relatives, but she must be firm, and allow no indiscriminate feeding, or eating between meals. The children may miss the cookies and the candies, but they will one day thank their mother for a good sound digestion, than which there is no more precious thing in the world. Grandmothers sometimes seem to regard it as a personal affront when not allowed to feed the babies whatever seems good to them, and the mother must sometimes seem unkind for the sake of the child.

Training the Baby

The following paragraphs from an unknown writer are added for their clear and valuable suggestions:

"The moral training of a child from birth to its first birthday is largely synonymous with its physical training. 'A healthy mind in a healthy body' applies as truly to the mite in the cradle as to those of larger growth, and on this strong foundation will the wise mother begin her moral building.

"To keep the baby happy, harmonious, and healthy; to prepare him for a robust childhood, is the work which confronts every mother at the beginning of each little life. How shall she do this and achieve the best results?

"That 'babies are not all alike' is the excuse of nine out of ten of the mothers who have unhappy and mismanaged infants. Quite true, they are not. For this very reason it follows that mothers should bestow all love and tenderness, remembering that this includes strict adherence to health habits, in order that the less fortunate little ones should speedily be transformed into happy babies. Can this change be brought about? Certainly it can!

"*First*—Mothers should cultivate control. Clear the mind of fear and apprehension. Make an earnest resolution to love and trust more the Giver of every good and perfect gift. The mental attitude and its influence are becoming more and more apparent to all thinking people and their effect upon very little children is being recognized and appreciated.

"*Second*—Commence from birth and follow carefully the course prescribed for each individual infant as to diet, bathing, airing, and every other physical attention. Maintain regularity. Keep to the feeding and slumber hours especially. Love him and pet him to your heart's desire, but when it is time for him to be put in his bed, put him there. If he cries a few times, or many times, he will finally establish a habit infinitely to his well-being.

"*Third*—As the days pass and consciousness and intelligence develop, teach him the rights of others in respect to attention and possessions. Give to him his own little belongings, with a place set aside for them, thus distinguishing between thine and mine. Teach him not to demand all just because he is the tiniest member of the household. So trained he will almost unconsciously become unselfish and responsible, the best foundation for future moral growth."

COMMON DISORDERS OF INFANCY AND THEIR PREVENTION

BY

DR. A. DINGWALL-FORDYCE

At the time of birth the vital, organic connection between mother and child ceases; the baby's development has now proceeded so far that it is capable of breathing, digesting, and maintaining its bodily warmth by itself—in a word, it is able to live alone.

Characteristics of Healthy Infancy

Every day of life sees the development of new powers—the body grows apace, the special power of each organ increases quickly, there is constant multiplication of cells in the body with the formation of new tissue, and a constant increase in the functional vigor of the cells of the different organs. There is consequently very rapid change taking place in the body—all the cells are working hard; it is natural for a baby's development to be rapid and constant, it is impossible for it to be at a standstill; and, if development is not progressing, the baby is going back.

The Nature of Disease in Infancy

Disease consists in (*a*) disturbance of the composition or action of cells in the body; or (*b*) invasion of the tissues by microbes; or (*c*) both derangements combined.

The body is a mass of cells grouped so as to form various tissues and various organs. The cells and groups of cells all have their particular functions to perform, and disarrangement means disease. Microbes are not naturally present in the tissues or organs, and when they do force an entrance they cause disorder and disease.

The Prevention of Disease in Infancy

The maintenance of health and the avoidance of disease is secured by (*a*) keeping the cells acting normally; (*b*) protection from infection by microbes.

1. To keep the cells acting normally we require to attend to the following:

Food.—In the adult, food is required to replace loss from wear and tear of the tissues, to keep the cells up to their natural composition and so to render them capable of performing their duties satisfactorily. In the infant, food has also to provide for growth of all the tissues. In order that the food may be made use of by the cells of the body it has first of all to undergo digestion in the alimentary canal (stomach and intestines). In infancy the powers of digestion are much more limited than in adult life, but they gradually increase; naturally an infant lives only on its mother's milk throughout this period. To preserve a healthy condition of the tissues it is essential to maintain a good digestion; it is only well-digested food which is of value to the body.

Atmosphere.—A pure atmosphere is equally important with well-digested food. Fresh air is a universal tonic.

Cleanliness.—Cleanliness is essential to preserve a healthy surface, more particularly in such areas as are adjacent to sources of discharge.

Rest.—All the cells of an infant's body are working at high pressure, and frequent rest is consequently necessary. A healthy infant sleeps for the greater part of each day.

Exercise.—Free movements are natural to the healthy baby. By the exercise of muscles and limbs, development is aided, and the free circulation of blood is helped.

Temperature.—An infant is readily affected by changes in temperature, and has less power than an adult of resisting great cold. It consequently must be so clothed as to ensure the preservation of its bodily warmth. The clothing, however, must not be too thick or too heavy. Heavy clothing, particularly in the cot, prevents free exercise of the muscles, and it is also injurious for the child to be kept too warm.

Environment.—An infant is markedly susceptible and adaptable, though unreasoning. Environment is bound to place its stamp upon it.

Drugs.—Drugs such as tonics can occasionally be used with success as substitutes for some of the above conditions, such as food and exercise, when these cannot be satisfactorily obtained. Such artificial methods of assisting nutrition must always be left for the consideration of a doctor.

Protection from Infection

2. To avoid infection by microbes the following points must be noted:

Disease-producing microbes are very simple forms of vegetable life. They multiply readily in

number, but for life and multiplication they require warmth and moisture. These they find suitably in the human body. The cells of the tissues where the microbes gain entrance have, however, the power of actively fighting against them, and, as the one side or the other gains the victory, so is the result cure or death. The power of resisting microbes varies considerably according to age, and the resisting power of an infant is markedly low. Many forms of infection take place readily in infancy. There is a very large variety of microbes, but some are not dangerous, and even the dangerous ones are not always so.

Large numbers of microbes are always dangerous to infants, and consequently cleanliness is of the utmost importance. Infection by microbes may occur (*a*) through eating and drinking; (*b*) through breathing; (*c*) through the skin.

Disorders Connected with Feeding

Suitable food and good digestion are essential for the condition of health. Unsuitable food usually causes indigestion and so leads to disease, but in some cases it produces disease without causing indigestion. Indigestion necessarily means bad health.

During the process of digestion a considerable amount of energy has to be expended by the cells of the body engaged in this function. Thereafter these cells require rest in order to regain their full power. Thus, not only must food be suitable, but there must be definite intervals between the meals. As mother's milk is the natural food for an infant, it is of course of suitable composition, but it must be given only at regular intervals. Even suitable food given irregularly is harmful; much more harmful is the irregular administration of unsuitable food.

Mother's milk is pure and clean; all artificial food must also be pure and clean. In the dietary of an infant hand-fed the three great desiderata are: (*a*) Cleanliness of food and utensils; (*b*) Simplicity in composition of food; (*c*) Regularity of meals. The disorders associated with improper feeding in infancy are: (*a*) gastro-intestinal affections; (*b*) rickets and scurvy; (*c*) anæmia, malnutrition, and general debility. Cow's milk, diluted with water according to the age of the infant, with a little cream and white sugar added to it, is a suitable food for most hand-fed infants. This mixture should be scalded, and never given after a shorter interval than two hours. Milk is a food and not merely a drink. Plain water is good for the infant, and may, if the mother thinks it desirable, be given freely between meals.

Common Complaints Resulting from Want of Cleanliness

Lack of bodily cleanliness, by interfering with the natural function of the skin, deleteriously affects the general health. It also leads to disordered conditions of the skin itself, and predisposes to parasitic conditions. Excoriations of the skin, rashes, and eczema are very often due simply to want of care in the matter of cleanliness, and have nothing whatever to do with the general condition of the infant.

Parasitic infection of the mouth, and disordered conditions of the mucous membrane of the mouth and throat, are often due to dirty teats or "comforters." Rubber teats must be kept scrupulously clean, and the mouth, if necessary, must be cleansed by a simple lotion. Likewise the eyes, nose, and ears must be carefully attended to, and no discharge should be allowed to collect.

Means of Protection against Tuberculous Infection

The bacillus of tuberculosis very readily affects an infant. The infecting germs may be in the milk, as it comes from the cow, or they may enter the milk in the home itself, or the infant may be infected by breathing tubercle-infected air. It is very dangerous for an infant to live beside a person suffering from tuberculosis—especially lung tuberculosis. An infant should not be nursed by a mother suffering from well-marked tuberculosis.

The milk of a hand-fed infant should be scalded before use, and, while in the home, must be carefully guarded against infection. Though readily infected it is not common for an infant to show signs of tuberculosis during the first month or two of life. Infection is, however, particularly dangerous in infancy, as, when the disease develops, it tends to become very widespread and it often progresses rapidly.

Throat Conditions

Some infants have from birth a peculiar harsh respiration, which becomes worse on excitement. This condition usually improves as the child grows older. Associated with rickets there is also a peculiar croupy form of inspiration due to spasm of muscles in the throat. This occurs in irregular attacks, and usually in spring.

This condition can, as a rule, be readily prevented by attention to the diet and hygiene, and by a morning douche of cold water on the back and neck. Diphtheria also attacks the infant, and it is always important in illness in infancy to examine the throat closely.

Venereal Infections

A peculiar constant hoarseness in the respiration of older infants is frequently due to syphilis. Syphilis is a contagious disease which may be transmitted to the infant from the father through the mother, and yet the mother may remain uninfected. In such a case it is quite safe for the mother to suckle her child, as by some means she has been rendered safe against infection. It is not safe for any other woman to nurse the child. In most cases the mother of a syphilitic baby has syphilis, or has previously had it.

A syphilitic infant very frequently is born dead. If born alive it is frequently strong and well for the first six to eight weeks of life; then the signs of syphilis appear—sores, rashes, and discharges—and such an infant is a source of great danger to its attendants. Steady treatment usually readily cures these symptoms, but the infant's vitality is frequently so low that death results. All sores and discharges from such an infant are capable of communicating the disease. Antiseptics must be constantly employed in handling the infant. One should never unnecessarily handle an infant with sores on its skin, or in its mouth, or discharge from its nose.

Infants, especially girls, not infrequently suffer from a discharge from the genital canal. The condition is usually due to want of cleanliness and accidental infection in these cases, but the discharge as a rule contains the organism of gonorrhea, and is consequently capable of spreading the disease. The utmost care and cleanliness are therefore necessary, and it is particularly important to prevent the infant infecting its eyes by its fingers.

Chest Conditions

It is important to avoid ordinary colds in infants. Not only are an infant's powers of breathing and sucking readily interfered with in catarrhal conditions of the nose and throat, but infection very readily extends, and bronchitis and pneumonia may supervene. In order to avoid colds it is important that the infant should be adequately clad; but excessive clothing, leading to excessive perspiration, is not uncommonly a source of danger.

The Occurrence of Convulsions

Fits or convulsions are met with very frequently in infancy. They may be a sign of very serious disease or of only a trivial and passing condition. Prolonged irritation anywhere in the body may cause fits—thus worms in the intestine, improper feeding, untreated discharges, all may cause fits. Suitable regular feeding and cleanliness would prevent the oncoming of very many fits.

Other Forms of Infantile Disorder—Value of Early Training

Young infants are particularly liable to peculiar forms of acute intestinal obstruction. This obstruction is associated with the occurrence of blood in the stools and sudden attacks of acute abdominal pain. With such conditions a doctor must be seen at once, as immediate operation is necessary. Occasionally, for a short time after birth, milk is present in the breasts of the infant, and the breasts are large, swollen, and perhaps somewhat painful. This is a condition which quickly passes off, and on no account must the breasts be rubbed, as, by so doing, inflammation may be caused.

Much trouble and difficulty in later years may be avoided by careful training in infancy. Even in early infancy training should be commenced and steadily persevered with. During life's opening days it is abundantly true that "prevention is better than cure," and prevention can be ensured only by knowledge and perseverance in right-doing.

BETTER BABIES

EDITED BY

CECILIA FARWELL

It was not only in fairy tales that the brave youth who called a wood cutter "father" would learn in due season that he was a king's son, and that the peasant was only his foster father. It was really true in Europe for many hundred years that the wealthy and great despaired of bringing up their children in cities, and would take them, often secretly, to some trusted family, where the robust peasant mother would nurse and the strong, honest father would train the heir of some great house with their own hearty children, for this seemed the only way to escape the

mysterious fate that hung over the lives of little children.

Queen Anne bore and buried seventeen children before she came to the English throne. Had this occurred in the days of Queen Elizabeth, when the court could not stay in any one palace for more than three months, because the floors became so foul that the residents had to move to another palace while the last one was scraped out and "sweetened," then we could understand why babies of the well-to-do as well as the poor died, but in comparatively modern times this strange fatality still persisted.

Even in more recent days, in the case of the large families of our Revolutionary ancestors, when it was not uncommon to have from ten to fifteen children, it frequently happened that only one out of three grew up to manhood or womanhood.

Smaller Families a Eugenic Gain

There need be no regret that families have in this generation grown smaller, for at the same time the chances for each child to live have grown greater. That mother is much wiser and happier who bears and rears from three to five children, than is she who bears eight or ten and loses more than half of them. With babies it is certainly quality that counts. And now we have learned how to improve the quality and keep them with us.

Scientific Discoveries Relative to Children's Diseases

It is scarcely a quarter of a century since the first plain setting forth of the germ theory of putrefaction and disease revealed some of the definite causes of the diseases that were sweeping little babies away by myriads every year. At first, when the discoveries of such men as Pasteur and Koch put their deaths in the list of those due to preventable diseases, doctors were very pessimistic, and said: "You never can get ignorant mothers, and especially grandmothers, to carry out the precautions of cleanliness and exactness that are necessary to prevent these germ diseases." But mother love seized hold of scientific information with such eagerness, and all philanthropic workers for children pushed the new theories so vigorously, that it is safe to say that no idea of the last quarter of a century has produced such marvellous results as the idea of science applied to the bringing up of babies, or the "Better Babies Idea." For instance, a quarter of a century ago there was a general idea that when babies who were fed on cows' milk suddenly died their deaths were due to heat or teething, or the much-dreaded "second summer," and the chief preventive against these fatalities was prayer.

The Danger of Tuberculous Milk

As soon as it was shown, however, that all summer complaints, cholera infantum, and summer diarrhea came from the germs of putrefaction that grow to billions in milk when it is exposed to the air in warm weather, and that practically all of the cases of intestinal tuberculosis in little children came from the milk of tubercular cows, then, in an ever-increasing army, family doctors, baby specialists, trained nurses, settlement workers, philanthropists, law makers, and even the supposedly antiquated grandmothers, joined the crusade with the mothers for their babies. They lectured and preached and practiced and invented cleanly apparatus and wrote articles in the magazines and the newspapers, until every mother of any intelligence in the city or country knows now that cow-stables must be cleaned, that tubercular cows must be killed, that all cows' milk must be pasteurized and kept on ice day and night, that every baby must have the milk modified by exact proportions of sugar-water and some cereal-water to suit its age and digestion, and that a single chance mistake, such as one summer night without ice, or a nursery maid's carelessness in giving a stale bottle, may cost the baby's life.

Awakening of the People

This has pretty well entered the minds of the laity, and thousands who twenty-five years ago would have looked upon milk as the staff of life now handle it as they would dynamite, and when they cannot be sure of the cows or the men that milk the cows, or their ice box, or the baby's ability to digest milk, they give them a carefully blended milk-and-cereal food that can be prepared fresh for each meal.

To this greater care of milk, its distribution by the Board of Health from sanitary stations, and by private charities, as well as the discriminating use of artificial foods, is largely due the remarkable decrease of infant mortality.

Reduction of the Infant Mortality-Rate

In New York City, through the earnest teaching of these facts, and awakening mothers to the dangers of impure milk, the death rate of babies has been reduced from 147 to 116 per thousand, and it is probable that this death rate will quickly sink much lower.

Dr. Simon Flexner, in his remarkable Huxley Lecture in London upon "Some Problems in Pre-

fection and Its Control," which is published in the "Studies of the Rockefeller Institute," says that when Huxley, in 1870, made his famous stand before the British Association, maintaining that there was no such thing as spontaneous generation, but that all microscopic organisms must descend from other living organisms, "he did not fail to perceive in the discoveries just being made in reference to fermentation, putrefaction and certain fungus and other diseases of insects, the herald of the new science that was to throw its protecting mantle not about man alone, but about all the higher animals, and even about the plants."

Bacteriology Helps to Save the Babies

How this new science of bacteriology has helped to save the babies in other ways than by giving them pure food is a tale of long, patient hours—nay, years—spent in laboratories all over the world, experimenting with guinea-pigs, rabbits, and monkeys, with the result finally that one discovery after another has been made that will help to protect the babies against certain diseases for all years to come.

The reason that babies and young children are so liable to take certain infectious diseases is because the mucous membrane of the throat and nose is so much more delicate than in adults, consequently the germs can become established there more easily.

"Although bacteriology," Dr. Flexner says, "has up to now distributed its favors unequally, we must not be daunted by this circumstance. It has yielded in some instances knowledge of diseases of small, and withheld in others knowledge of diseases of great, importance. In respect to the common and highly contagious diseases, measles and scarlet fever, for example, progress has been slight." Nevertheless the spread of these diseases has been greatly diminished by rigorous Board of Health rule, and disinfectants, as well as through the greater care of mothers in isolating sick children.

Modern Treatment of Diphtheria

But diphtheria, that terror of the nursery before the bacillus was discovered and antitoxin given to the world, has had its death-rate so greatly reduced that if the treatment can be given promptly the chances for recovery are ten to one greater than they were even twenty years ago.

But in this, as in so many other diseases, it is not merely the scientific discovery and the training of the physician that count, it is everything that works together for the good of the child. It is the Board of Health facilities that make it possible to have a culture of every suspicious throat made at once, whether day or night or Sunday, and reported on in time to give the antitoxin a chance, and it is the mother's better knowledge of the danger of sore throat and fever and of the necessity for isolation and the need of rigorous treatment that has helped to make the mortality from diphtheria so much lower.

Another disease that was considered hopeless, even ten years ago, is cerebrospinal meningitis. Babies and little children would sicken and die sometimes in two or three days, and again would linger in convulsions for weeks. But since 1908, when Flexner discovered the serum that would control the poison of the meningitis germ, very many cases have recovered.

Wiser Mothers

Twenty-five years ago mothers would be most careful not to let their children breathe the mysterious "miasma," whatever that was supposed to be, that arose from ponds and swamps on the night air, lest they should contract malaria, but they did nothing more than provide themselves with pennyroyal against the bites of the malaria-bearing mosquito, with the consequence that children in malarial districts, even in the Northern States, were wasted with chills and fever.

To-day there are whole suburbs of houses filled with babies, springing up in neighborhoods where no child could have lived a few years ago. Drainage, the greatest care in keeping all water-butts covered, all damp places sprinkled with kerosene, screened porches and bedrooms as well as the doctor's care in keeping any malarial patients protected by netting from mosquitoes, so that they cannot carry the disease—these have practically stamped out malaria in most neighborhoods.

The Great White Plague

But perhaps the greatest results from the propagation of the germ idea are seen in the care with which babies are protected from tuberculosis. People do not kiss babies on their mouths now. Even an ignorant mother knows that is taboo. And people do not spit on the street. No one in a family will tolerate carelessness in a tubercular patient. Down in the crowded tenement quarters they all fear the "great white plague," and will not, even for the much-needed rent, sublet to a coughing consumptive.

Twenty-five years ago it was the pathetic appeal, in raising funds for the Brooklyn Home for Consumptives, that in New York and Brooklyn it was the only hospital where consumptives could be taken in to die or get well, if they had a

chance, for they were turned away from every other hospital.

Now it is considered the city's first care to provide outdoor quarters for such patients, and the Board of Health has stations all over the city; roofs, balconies, ferry-boats, tents on islands are at the service of the very poor, while the heights and mountains all over the State of New York are filled with retreats where those with little, as well as those with abundant, means are taken care of.

The death rate from tuberculosis, both of the intestines and the lungs, in children under five has greatly diminished. They are looked out for everywhere, and are sent to seaside homes or are nursed on hospital balconies; they are kept out-of-doors in parks and playgrounds; when they are old enough to go to school they are fed extra food and are taught in the open air.

The Age of Experiment Past—Now We Know What to Do

Twenty-five years ago physicians were just discovering that adenoids and enlarged tonsils were the cause of much ill health and general backwardness in children. They were experimenting in snaring and snipping abnormalities out of children's throats. Now it is almost a routine process to have, as one parent expressed it, "all the loose ends trimmed off," and thousands of children whose parents have been sensible enough to take them to a skillful surgeon, at either office or clinic, have been relieved, with only slight discomfort, of troubles that would have lasted a lifetime.

The attention given to babies' eyes and to little children's teeth may not seem to have much bearing on the death rate, but it certainly bears on their life interest. Compare the numbers of blind babies and blind people in an Oriental city with the comparatively few blind in our country! For twenty-five years every baby born under the care of an intelligent physician has had a few drops of diluted nitrate of silver dropped in its eyes when it was a few hours old, regardless of its parents' good bill of health. If there was any chance of the baby's eyes being infected by virulent germs those few drops of nitrate of silver would save them. The fact is also becoming known that parents suffering from any sexual disease must take the greatest precaution about towels and utensils, or they may infect their children's eyes.

Removing the Handicap of Poor Teeth

As for teeth, it has recently been reported by one of the reform schools for boys that they considered the dentist "the first aid in reform." All the boys who had been sent up for petty offenses and unmanageableness at home were found to have very bad teeth. Consequently, as it had been painful for them to eat, they had gained the habit of bolting their food, with resulting indigestion, anemia, and a sullen desire to be aggravating and vicious.

As soon as their teeth were in sound shape they were able to eat heartily and digest comfortably and felt better, and before long they became interested in work and studies and were considered "good" boys. The whole number, sixty in all, got their first start in the dentist's chair, and it is argued that they would never have been such miserable, disagreeable little urchins if their teeth had never bothered them.

Attention Given by Schools to the Teeth

The public schools are taking hold of this idea and looking after the teeth of children who cannot afford dentistry, and as soon as every mother learns to take her children twice a year to a dentist, or to a dental clinic, for advice, and see that they use a tooth brush every day, it is safe to say that there will be no lost time and strength due to the agonies of toothache and the misery of indigestion while they are growing up.

Illumination in Recent Times on the Subject of Heredity

Perhaps one of the most subtle benefits that has happened in the last twenty-five years to give babies a better chance is the clearing up of some of the mysteries of heredity. The hand of Providence is no longer to be considered as outstretched to chastise the innocent for their own good, or to smite wrongdoers, but rather as pointing a warning finger at some very evident facts that cannot be abolished by ignoring them, but that can be avoided by common sense and overcome by effort and control.

Better Babies and Eugenics

Mothers know now that those babies who inherit the same physical weakness on both sides, such as weak eyes, tuberculosis, alcoholism, syphilis or a strain of insanity, run great risk of developing the same taint, and must be guarded and strengthened along those lines. In former years such children were allowed to struggle up and take their chance with the healthy; now they have special treatment and special care, and if they fall by the way there are strong but kindly hands outstretched to draw them aside from the pulsing stream of life and prevent them from passing on their infirmities to the next generation.

MOTHERS' RESPONSIBILITY IN REGARD TO DIET

BY

CAROLINE BENEDICT BURRELL

It is one of the interesting developments of science to-day that we realize the great effect of food upon body and mind. Such a thing was never dreamed of by our forefathers. The discovery is one of those which seem to put a clue in our hands and so show us the way out of many a difficulty. How simple, if a child merely needs such a thing as food to make him grow better and stronger, to adjust his diet to his needs!

And yet it is not quite as simple as it sounds. For one thing, each child's stomach is a law unto itself. What is relished by one is positively disliked by another. What seems to agree with one is almost a poison to his own brother. It needs special study so to adjust foods as to give the individual what *he* needs—not merely what is good and nourishing in itself. But there are certain facts about foods which help one in planning a regimen for growing children, and perhaps the first one is this:

Do Not Give Them Too Much Meat

The old-fashioned breakfast of beefsteak and potatoes, or ham and eggs, with a second course of buckwheat cakes and sirup, has long gone by. We know to-day that no child, certainly, can digest such a meal and not be the worse for it, whatever a strong man may accomplish in the way of a dietetic feat. The first meal of the day for children should be simple, but appetizing; and so nourishing that they can go to school and study without feeling faint before noon. The effect of too heavy foods on the brain is to make it sluggish; all the blood is drawn to the stomach to help dispose of the mass of material deposited there. It is quite impossible to expect children with over-loaded stomachs to show any zest in arithmetic. A teacher sometimes thinks a child stupid when in reality it is only that his brain is working half-time.

Over-feeding — Herbert Spencer's Classic Law

But even where the first meal of the day does not consist of meat and cakes a child may still over-eat. If he has a huge plateful of heavy cereal with sugar and cream, a cup of cocoa, two eggs, and two or three hot muffins, he probably goes to school in almost as poor a condition as if he had eaten the heavier meal above described; and yet everything he has had is wholesome, and if he is a hungry boy, he may think he needs all that he has eaten.

Herbert Spencer, in his admirable book, "Education," lays down a simple law for the feeding of children which is a genuine classic: "Let a child eat all he wishes of plain food at a regular hour." Notice the word *plain*, for that is the key. Cream, in itself an excellent food, should be taken in moderation when anything else is given; the combination of rich cream and sugar with eggs and other things is usually too heavy. So with eggs; one egg is better than two for a child. Hot muffins are never good for children, and if muffins are given, one which has been cooled before it is buttered is quite enough. Cocoa is good in its place, but when added to several other things, this, too, is usually too much. An ideal breakfast for a school child would be fruit, whole-wheat bread a day old, plenty of butter, an egg, and, if the fruit were cooked, milk.

The same rule applies to the noon meal: A child can no more do good mental work on a heavy dinner than an adult can; and adults learn very soon that their brains are never clear after eating heartily. So the noon meal should be simple, too, though nourishing. Soup is always good; so are baked potatoes, and macaroni, and vegetables, and plain custard puddings; if the noon meal is the family dinner, then a child will usually need one serving of meat, but not more. The evening meal should be light, but if taken early enough, it may be plentiful; soup, eggs, vegetables, rice, stewed fruits, simple cookies or gingerbread, are all good.

A diet such as this gives a child a clear brain. None of his digestive organs is over-worked, yet he is amply nourished. Pastry, rich puddings, meat twice a day, salads, fried foods, and similar things will certainly not give him a good start in life. Mothers should have the idea deeply implanted in their minds that it is better to have the family table set with what everyone can eat than to have constantly what children must be denied. There should be an abundance of good, nourishing food, so attractively prepared that the child will not miss the rich and indigestible things he will very naturally desire if he sees them before him.

On the Other Hand, Under-feeding Is Also to Be Avoided

But this is only part of the subject, for unfortunately there are plenty of children in school whose brains do not work because of under-feeding. Of course no really hungry child can study successfully. Strangely enough, among the children of the well-to-do one occasionally finds a child with no appetite in the morning, who struggles against the idea that he must eat his breakfast, and sometimes the mother regards this as an indication that he is better off without a meal and permits him to go to school without it.

But when the child is not hungry when he wakes there is some reason for it, not too remote to discover. Probably he has had too hearty a supper the night before; perhaps he has eaten candy or rich cake in the previous afternoon; possibly he is over-tired; at all events a mother may work on the problem in this way, eliminating this reason and that until at last she hits on the true one and at once proceeds to correct the trouble. For a child who goes to school without breakfast is certain to need something before noon; then, if he eats, he will undoubtedly have little appetite for dinner, and be hungry again before night, and so on. He will in the end keep his stomach working most of the day and yet he will never get a full meal.

Eating between Meals Is Generally to Be Discouraged

Most children are really hungry after school in the afternoon, and then bread and butter, simple cookies, gingerbread, or an apple will satisfy them, and the hearty play which follows will help them digest it before the evening meal, so that this will do no harm. But in a general way it is a safe rule to discourage eating between meals, and if anything is taken it should always be something very simple. Candy should never be eaten except immediately after the noon meal, and anything like nuts, raisins, or cake must also be taken then.

Diet for Unusual Children

There are delicate children, with tendency to anemia or tuberculosis, who cannot be treated like normal, healthy children. They need special care as to their diet, and require meals oftener than other children. It is always safe first to have a doctor lay down a regimen for such children, and then to keep strictly to it until the child becomes healthy.

Children who are thin and pale, who play languidly and study too hard, demand an abundance of nourishment in a condensed form that will not over-tax their digestion. For them eggs, milk, and soups are needed, and they should not be confined to three meals a day. They require a breakfast of sustaining food—hot, well-cooked cereal with cream, soft-boiled eggs and milk; a dinner of soup, meat and vegetables, and cooked fruit; a glass of milk and a slice of bread and butter at three or four o'clock; and a supper of soup or cocoa, plenty of well-buttered brown bread, and other plain and nourishing things. Milk, of course, is the essential of diet for such children.

But for all children mothers must remember that if they are to do good mental work they must have proper food; plenty of it, since both body and mind are growing; easily-digested, since the organs must not be taxed to care for it; plain, because rich food means trouble later on in body or mind or both; and above all, appetizing to look at and to eat, since children are so given to food-prejudices that they will turn from this or that article of diet which they really need, unless it appeals to their eye and their palate.

The Connection between Diet and Naughtiness

But there is another aspect of the food question which needs serious thought, and that is the effect of food upon morals.

Is your boy cross or quarrelsome? Is he fretful and whining? Is your little girl abnormally good and amiable? Is she sly and given to taking things without asking? Possibly there is something wrong with her diet. The cross, quarrelsome child perhaps has indigestion. He may have eaten green apples, or quantities of nuts, between meals. The fretful child may be suffering from the plum-cake he ate yesterday. The too-gentle child may be anemic; the sly child may steal sugar from the closet because of a need of sugar in her food.

How many children have been punished for naughtiness when their moral systems are not so much to blame as their physical; or indeed, when they themselves are not so much to blame as their careless or ignorant parents! If every naughty child were given castor oil instead of a spanking, and put on a rigorous diet instead of being put in the closet, there would be far less domestic difficulties in dealing with them. The individual needs of each child must be studied, and its own wants met. One may not be able to digest fats; another requires them. One has a stomach easily upset by any sweet; another, lacking the energy which sugar gives, must have a certain amount of it.

Mastication—Eat Slowly and Chew Well

One rule, however, can be rigidly applied to all children: All food, to give the best results, must be eaten slowly and well chewed. It is difficult to secure this end, but at least a mother should try hard to secure it. Thoroughly-masticated food gives more energy than that which is not so masticated, and a less amount of food is required. Aside from this valuable hint, however, there is the well-known fact that indigestion is largely caused by hurried eating.

The Start in Life—Diet Will Affect the Mental and Moral Nature

Any social worker knows that our reformatories are filled with young men and women whose mental and moral nature has been warped or impaired by under-feeding or over-feeding. The under-fed have never properly developed. Their mentality is below par; their tendencies are naturally criminal; they grasp at what they have no right to; they have no proper estimates of values. The over-fed are too easy-going; their self-control is weak; they are morally lethargic. It is only when children have the right sort of food, enough of it and not too much, and at proper times, that they develop normally. The clear, alert mind, the strong, athletic body, the sense of right and wrong and individual responsibility, do not come by accident; they are the direct result of a careful training toward the best mental and physical standards. And this means the watchful care over the home diet that a mother alone is qualified and is in the proper position to give.

THE HYGIENE OF NUTRITION

BY

DR. HENRY P. DE FOREST

Food is essential for the preservation of life, but in the present state of civilization, it is not enough simply to say "food"; we are expected to tell definitely just what kind is required by different persons under varying conditions to supply the maximum amount of energy with the minimum amount of effort. The food that is best suited for use in the tropics is by no means the best to take on a polar expedition. The food supply for a man engaged in laborious work is not suited to the needs of a convalescent woman.

Food Fads—Different Foods Required by Different Individuals

The pendulum of life swings to and fro, and at each point of its arc there collect from time to time groups of persons who think that they have at last discovered the one essential class of foods which, if eaten to the exclusion of all other forms of diet, will surely ward off disease and cause each person to become at least a centenarian. Unfortunately the mortality tables of the life insurance companies by no means bear out these claims, and the only common ground on which meat eaters, nut eaters, and vegetarians meet is the wayside station where each can get three meals a day.

To medical men falls the task of deciding definitely just the class of food that individuals may require. Here again there is a wide variety of opinion. Lists are prepared for fluid diet, for soft diet, for fluid and farinaceous diet, and for full diet, and there are also to be considered diets for persons suffering from rheumatism, diabetes, Bright's disease, and anemia, as well as the ever-present class of persons who wish either to become fat or thin. For each one the physician must decide what food is best suited to this person to supply the maximum amount of energy with the minimum amount of digestive force. Whatever the answer may be, so far as the component parts of the dietary are concerned, other factors of equal importance must also be considered if a satisfactory result is to be obtained.

The food itself must be pure and free from poisonous or deleterious ingredients. The teeth and mouth of the patient must be in the best of condition, and the patient must take care that the process of mastication is thoroughly performed. "Fletcherism" by other names has aided in preserving good health since mankind began. The quantity of food taken must not be excessive, nor must the stomach and other organs of digestion be called upon to perform more work than is actually needed to supply body waste or needed growth. Indigestible food must be avoided, since this leads to useless effort on the part of the digestive organs and results in functional impairment. A certain amount of coarse food must be taken, or the intestines are

not stimulated to proper activity, and constipation and kindred ills result.

Need of Fluids, to Furnish Moisture

Sufficient fluid must be taken to furnish ample blood and tissue moisture, not in excessive amounts at mealtime, as is so often the case, but properly distributed throughout the day. If these requirements are complied with, and the food varies in character with the climate and with the demands for bodily energy, it seems to make but little difference what the actual food elements are. Carbohydrates, nitrogen-bearing foods, and water are the essentials, and each can be supplied in many different ways. If the proper hygiene of nutrition is observed, the physiological processes of insalivation, chymification, chylification, absorption, and excretion progress smoothly, and good health is maintained.

Causes of Dyspepsia

If any portion of this necessary hygiene is systematically neglected, dyspepsia, at first acute and later chronic, is practically certain to ensue. Technically the term "dyspepsia" may properly be limited in application to disturbance of the normal function of the stomach, but this disturbance is dependent in many cases upon impairment in other processes of digestion.

If, for instance, the food is eaten hastily, but slightly chewed, imperfectly mixed with the saliva, and swallowed hastily and in large-sized masses, the saliva does not get a chance to act properly upon the starches, the gastric juice can act but slowly upon the large particles of food, food remains too long in the stomach, fermentation may result, and the usual symptoms of dyspepsia ensue.

Impure Foods—Dr. Wiley's Services

The food must be pure, and to secure that much-to-be-desired condition no one has done as much in this country as Dr. Harvey W. Wiley. When the excitement of the Spanish War was fresh in our minds, "embalmed beef" became a synonym for all that was bad in bad food, fraudulent devices, and dishonest contractors. A few army officials, more or less to blame, were dismissed; a few more learned through fear or increased knowledge to improve the army food supply, and in a short time the term "embalmed beef" became more of a jest than a sad and caustic commentary upon our foolish system of mere political preferment, instead of progressive advancement upon the sound basis of merit. Let us not deceive ourselves with the belief that "embalmed beef" has ceased to exist, save as a name. Dr. Wiley has shown that the term may be properly applied to other articles that are really not beef at all, and that formaldehyde, salicylic acid, borax, benzoic acid, and benzoate of sodium, copper salts, and coal-tar dyes are ingredients that are still used in large quantities, and that the percentage of food products free from any of these harmful agents is still far too low.

Haste and Irregularity in Eating

The time allowed for meals is too short and the hours are too irregular in this ever-crowding life of ours. From the suburbanite, who eats for a certain number of minutes by the clock and then runs for the morning train, to the shop girl or clerk who consumes a mixture of an egg with malted milk and calls it a lunch, and on again to those who hurry home, devour a dinner, and hasten to an entertainment, the list of those who are candidates for the degree of Dyspeptic Invalid is steadily becoming longer. In the matter of irregular hours, doctors themselves are among the worst sinners. Their work may serve as an excuse, for all of them know better, but few will act upon their knowledge.

Improper Foods and the Lack of Exercise among Women

In the matter of the use of too finely prepared foods, women are the greatest offenders, and as a result are the greatest sufferers. The vast number of prepared foods that are on the market, each claiming to be better than all the others, have almost done away with the need for teeth, so far as chewing is concerned. The result is that not only is the food swallowed without mastication, but there is so little solid material left to pass into the large intestine that that organ has but little work to do, and retires from business. Add to this improper food, the indoor life, the lack of active exercise in the open air, the modes of dress, and the limited amount of water that is habitually taken, it is little wonder that dyspepsia and constipation are common among women.

Other common causes of chronic gastritis are the persistent use of certain articles of diet, such as very fat substances or foods containing too much of the carbohydrates. New England pie and the hot breads of the Southern States are responsible for many cases of chronic dyspepsia. The use in excess of tea or coffee, and, above all, alcohol in its various forms, is also a cause. A common cause of chronic catarrh of the stomach is drinking too freely of iced water during meals, a practice which plays no small

part in the prevalence of dyspepsia in America. Another frequent cause is the abuse of tobacco, particularly by chewing. I shall not dwell upon the purely medical conditions that cause chronic dyspepsia, anemia, tuberculosis, Bright's disease, gout, ulcer or dilatation of the stomach, and disturbances of circulation—all contribute their share to the total result.

Symptoms of Chronic Dyspepsia

The results of chronic dyspepsia are as varied as the causes. The affection persists indefinitely, and, as is the case with most chronic diseases, changes from time to time. The appetite is variable, sometimes greatly impaired, at other times very good. Among early symptoms are feelings of distress or oppression after eating, which may become aggravated and amount to actual pain. When the stomach is empty there may also be a painful feeling; the pain differs in different cases, and may be trifling or of extreme severity. When localized and felt beneath the breast bone or below the heart, it is known as "heartburn," and not infrequently the person so afflicted thinks he has actual heart disease, when really the stomach is the only organ that is to blame. Pressure over the stomach is usually painful. The tongue is coated and there is a bad taste in the mouth. The tip and margin of the tongue are often red. There may be an increase in the amount of saliva, or catarrh may be present. Nausea is common, especially in the morning. Eructation of gas, which may continue for some hours after taking food, is a very prominent feature in cases of so-called flatulent dyspepsia, and there may be marked distention of the intestines. With the gas, bitter fluids may be brought up. Vomiting, which is not very frequent, occurs either immediately after eating or an hour or two later. In the chronic catarrh of old topers, a bout of morning vomiting is common, in which a slimy mucus appears. Digestion is much delayed, and as late as seven hours after eating, portions of food are still in the stomach. This prolonged retention of food favors decomposition, the stomach becomes distended with gas, and permanent dilatation of the stomach may result. Absorption of food or of medicine is slow, and results of treatment are often difficult to secure. Constipation is usually present, but in some instances there is diarrhea, and undigested food passes rapidly through the bowels. The urine is often scanty and high-colored, and deposits a heavy reddish sediment.

Among other symptoms, headache is common, and the patient feels constantly out of sorts, indisposed for exercise, and low-spirited. In severe cases melancholia may develop. Fever does not usually occur. The so-called "stomach cough" of chronic dyspeptics is usually dependent upon the chronic nasal catarrh so frequently present. All bodily activities suffer as a result of imperfect digestion and absorption. There is usually a progressive and steady loss of weight. The nervous system suffers also, and the disposition becomes more and more irritable. Ultimately the friends of the victim are quite as much afflicted as the patient himself.

Putting the Human Machine in Good Running Order

It is sometimes surprising to see how much can be done to put the machinery of the human system in good working order, provided none of its essential parts are organically diseased. Reduction in weight is much more difficult to achieve than increase, for, as a rule, people who are over-fat find it difficult to deny themselves the satisfaction of a hearty meal, and are averse to a rigid diet or active exercise. Here again suitable exercises and carefully restricted diet can reduce weight from five to ten pounds a month, not only without loss of strength, but with material benefit to all bodily functions. It is therefore a comfort to know that there are few conditions in medicine which, with proper care and patience and attention to seemingly unimportant details, will give such satisfactory results in the restoration of health as in the cases of chronic dyspepsia and malnutrition.

THE PRINCIPLES OF NUTRITION AND THE NUTRITIVE VALUE OF FOOD

BY

W. O. ATWATER

Dr. Atwater's bulletin is the standard for practically all of the investigations which have been made on this subject. The Atwater Tables, some of which we give herein, are used as the basis for work in the leading colleges and hospitals, and the many books which the recently awakened interest in this subject has brought forth.

In this abridgment of the bulletin, edited for the Child Welfare Manual by Cecilia Farwell, we have tried to give to the busy mother those scientific facts which have a direct bearing upon her own problems.

The complete bulletin can be obtained from the Department of Agriculture.

We have come to recognize the fact that nutrition is quite as important a factor in the life of man as is environment or heredity, affecting the mental and moral life of the individual, and through him the social life of the community, quite as much as either of these. Air, water, rest, and sleep are part of the nutritive forces of life, but the one most entirely within our control is food. It is important that we should know something about this very important factor in our life and growth. The following table shows the principal elements that make up our food:

NUTRITIVE INGREDIENTS (OR NUTRIENTS) OF FOOD

Food as purchased contains—

- Edible portion (*e. g.*, flesh of meat, yolk and white of eggs, wheat, flour, etc.)
  - Water.
  - Nutrients...
    - Protein.
    - Fats.
    - Carbohydrates.
    - Mineral matters.
- Refuse (*e. g.*, bones, entrails, shells, bran, etc.)

USES OF NUTRIENTS IN THE BODY

Protein (*e. g.*, white (albumen) of eggs, curd (casein) of milk, lean meat, gluten of wheat, etc.)	Forms tissue	All serve as fuel to yield energy in the forms of heat and muscular power.
Fats (*e. g.*, fat of meat, butter, olive oil, oils of corn and wheat, etc.)	Are stored as fat	
Carbohydrates (*e. g.*, sugar, starch, etc.)	Are transformed into fat	
Mineral matters (ash) (*e. g.*, phosphates of lime, potash, soda, etc.)	Share in forming bone, assist in digestion, etc.	

Food is that which, taken into the body, builds tissues or yields energy. The most healthful food is that which is best fitted to the needs of the body. The cheapest food is that which furnishes the largest amount of nutriment at the least cost. The best food is that which is both most healthful and cheapest.

We have, then, to consider the kinds and amounts of nutrients in different food-materials; the digestibility of these materials; the kinds and amounts needed for nourishment by persons under different conditions of rest and work; and the nutritive value of different food-products as compared with their cost.

Water forms over 60 per cent. of the weight of the body of the average man, being a component part of all the tissues. Though it cannot be burned, and hence does not yield energy to the body, it is an important part of our food.

Mineral Matter or Ash

Minerals yield little or no energy but are indispensable to the body. They are found chiefly in the bones and teeth, but are present also in the other tissues and in solution in the various fluids. When food or body-material is burned, the mineral constituents remain as ash. Phosphate of lime (or calcium phosphate) is the mineral basis of bone. Numerous compounds of potassium, sodium, magnesium, and iron are found in the body and are necessary to life. The remaining nutritive materials are supplied from the animal and vegetable world. They furnish carbon, oxygen, hydrogen, nitrogen, phosphorus, sulphur, and other elements, and are divided into three principal groups—protein, fats, and carbohydrates.

The Three Groups of Protein Compounds

This term includes the principal nitrogenous compounds, and forms about 18 per cent. by weight of the body of the average man. Protein compounds may be subdivided into albuminoids, gelatinoids, and extractives. The first group, the albuminoids, include substances similar to the white of egg, the lean of meat (myosin), the curd of milk (casein), and the gluten of wheat. The second group, the gelatinoids, occur principally in the connective tissues, such as the collagen of the tendons and skin and the ossein of bone.

The proteids are most important constituents of our food. They make the basis of bone, muscle, and other tissues, and are essential to the body structures. They yield energy and heat, and are transformed into fat. The protein compounds are most abundant in some of the animal foods, as lean meat, though the cereals contain them in considerable, and peas and beans in large, proportions.

Fats Constitute Reserve Material

Fats occur chiefly in animal foods, in some vegetable products, such as olives and cotton-seed, from which they are expressed as oil, in some cereals, as oatmeal and maize, and in various nuts. The amount of fat in the body varies greatly with food, exercise, age, and other conditions. When the food supply is short this reserve material is drawn upon for supplementary fuel. Fat forms about 15 per cent. by weight of the body of an average man. Well-fed or overfed people, with little muscular exercise, often grow fat, but the tendency to fatness or leanness is more or less a question of personal idiosyncrasy or some other little understood factor, and not decided by food and exercise alone.

Carbohydrates—Where Found

These include starches, different kinds of sugar, and the fiber of plants and cellulose. They are found chiefly in the vegetable foods, like cereal grains and potatoes; milk contains considerable amounts of milk sugar, which is a carbohydrate. Starches and sugars are important food ingredients, because they form an abundant source of energy and are easily digested, and often are transformed into fat in the body.

Food as Building-Material and Fuel

By the process of nutrition all the organs and tissues of the body are built from food. With all of the activities of the body and the mind, material is consumed, and this must be resupplied.

From the time foods are taken into the body until they are digested, absorbed, utilized, and finally converted largely into the carbon dioxid and water-vapor of the breath and the nitrogenous and other excretory products of the urine and feces, they undergo great chemical changes, very many of which liberate heat. It is through these complex chemical processes that the body derives the energy for internal and external muscular work. The amount of heat produced in the body varies with the amount of food eaten, the work done, and other circumstances. However, the body is such a perfect piece of mechanism that the loss of heat by radiation, etc., is so adjusted to heat production that body temperature remains fairly constant.

The Body as a Machine

One important difference between the human machine and the steam engine is that the former is self-building, self-repairing, and self-regulating. Another is that the material of which the engine is built is very different from that which it uses for fuel, but part of the material which serves the body as a source of energy also builds it up and keeps it in repair. Furthermore, the body can use its own substance for this purpose. This the steam engine cannot do. The steam engine and the body are alike in that both convert the fuel into mechanical power and heat. They differ in that the body uses the same material for fuel as for building and also consumes its own material for fuel. In the use of its source of power the body is much more economical than any engine.

But the body is more than a machine. It has not simply organs to build and keep in repair and supply with energy; it has a nervous organization; it has sensibilities; and there are the higher intellectual and spiritual faculties. The right exercise of these depends upon the right nutrition of the body. The chief uses of food, then, are two: (1) To form the material of the body and repair its wastes, and (2) to furnish muscular and other power for the work the body has to do and yield heat to keep the body warm. In forming the tissues and the fluids of the body the food serves for building and repair. In yielding power and heat it serves as fuel.

Protein as Building-Material

The principal tissue formers are the protein compounds, especially the albuminoids. These make the framework of the body. They build up and repair the nitrogenous materials, as the muscles and tendons, and supply the albuminoids of the blood, milk, and other fluids.

The albuminoids of food are transformed into the albuminoids and gelatinoids of the body. Muscle, tendon and cartilage, bone and skin, the corpuscles of the blood, and the casein of milk are made of the albuminoids of food. The albuminoids are sometimes called "flesh formers" or "muscle formers," because the lean flesh, the muscle, is made from them, though the term is inadequate, as it leaves out of account the energy-furnishing function of protein. The gelatinoids of food, such as the finer particles of tendon and the gelatin, which are dissolved out of bone and meat in soup, though somewhat similar to the albuminoids in composition, are not believed to be tissue formers; but they are valuable in protecting the albuminoids from consumption. That is, when the food contains gelatinoids in abundance less of albuminoids is used. The proteids can be so changed in the body as to yield fats and carbohydrates, and such changes actually occur to some extent. In this and other ways they supply the body with fuel.

Protein as Fuel for the Body

The protein compounds are not only used for building and repairing tissue, but are also burned directly in the body like the carbohydrates, and thus render important service as fuel. A dog can live on lean meat. He can convert its material into muscle and its energy into heat and muscular power. Man can do the same; but such a one-sided diet would not be best for the dog and it would be still worse for man. The natural food for carnivorous animals, like the dog, supplies fats and some carbohydrates, and that for omnivorous animals, like man, furnishes fats and carbohydrates in liberal amounts along with protein. Herbivorous animals, like horses, cattle, and sheep, naturally require large proportions of carbohydrates.

Fats and Carbohydrates as Fuel

Fats and carbohydrates are the chief fuel ingredients of food. Sugar and the starch of bread and potatoes are burned in the body to yield heat and power. The fats, such as the fat of meat and butter, serve the same purpose, only they are a more concentrated fuel than the carbohydrates. The body can also transform carbohydrates of food into fat. This fat, and with it that stored from the food, is kept in the body as reserve fuel in the most concentrated form. The different nutrients can to a greater or less extent do one another's work. If the body has not enough of one kind of fuel it can use another. But, while protein can be burned in the place of fats and carbohydrates, neither of the latter can take the place of the albuminoids in building and repairing the tissues. At the same time the gelatinoids, fats, and carbohydrates, by being consumed themselves, protect the albuminoids from consumption.

Value of Food for Supplying Energy

Heat and muscular power are forms of force or energy. The energy latent in the food is developed as the food is consumed in the body. The process is more or less akin to that which takes place when coal is burned in the furnace of the locomotive. For the burning of the food in the body or the coal in the furnace, air is used to supply oxygen. When the fuel is oxidized, be it meat or wood, bread or coal, the latent energy becomes active, or, in technical language, the potential energy becomes kinetic; it is transformed into power and heat. As various kinds of coal differ in the amount of heat given off per ton, so various kinds of food and food ingredients give off different amounts of energy; that is, have different values as fuel in the body.

Heat of Combustion

The processes of oxidation of material and transformation of energy in the body are less simple than in the engine and less clearly understood. Late research, however, has given us ways of measuring the energy latent in coal, wood, and in food materials as well. This is most generally done in the chemical laboratory by an apparatus called the bomb calorimeter. The amount of heat given off in the oxidation of a given quantity of any materials is called its "heat of combustion," and is taken as a measure of its latent or potential energy. The unit commonly used is the calory, the amount of heat which would raise the temperature of 1 kilogram of water 1 degree C., or, what is nearly the same thing, 1 pound of water 4 degrees F. Instead of this unit of heat, a unit of mechanical energy may be used—for instance, the foot-ton, which represents the force required to raise 1 ton 1 foot. One calory is equal to very nearly 1.54 foot-tons; that is to say, 1 calory of heat, when transformed into mechanical power, would suffice to lift 1 ton 1.54 feet.

The Conservation of Energy in the Body

The amounts of energy transformed in the body when food and its own material are burned within it are measured with the respiration calorimeter. It is well known that the food is not completely oxidized in the body. These experiments have shown that the material which is oxidized yields the same amount of energy as it

would if burned with oxygen outside the body, *e. g.*, in the bomb calorimeter. The experiments show also that when a man does no muscular work (save, of course, the internal work of respiration, circulation, etc.), all the energy leaves his body as heat; but when he does muscular work, as in lifting weights or driving a bicycle, part of the energy appears in the external work thus done, and the rest is given off from the body as heat. The most interesting result of all is that the energy given off from the body as heat when the man is at rest, or as heat and mechanical work together when he is working, exactly equals the latent energy of the material burned in the body. This is in accordance with the law of the conservation of energy. It thus appears that the body actually obeys, as we should expect it to obey, this great law that dominates the physical universe.

Fuel Value

We may make practical application of this principle of the conservation of energy in the body in measuring the actual value of food as fuel to the body, *i. e.*, its "fuel value," by use of the bomb and respiration calorimeters. To do this we have to take into account the chemical composition of the food, the proportions of the nutrients actually digested and oxidized in the body, and the proportion of the whole latent energy of each which becomes active and useful to the body for warmth and work. Taking our common food materials as they are used in ordinary diet, the following general estimate has been made for the energy furnished to the body by 1 gram or 1 pound of each of the classes of nutrients:

Protein, fuel value, 4 calories per gram, or 1,820 calories per pound.
Fats, fuel value, 9 calories per gram, or 4,040 calories per pound.
Carbohydrates, fuel value, 4 calories per gram, or 1,820 calories per pound.

It will be seen that when we compare the nutrients in respect to their fuel value, their capacities for yielding heat and mechanical power, a pound of protein of lean meat or albumen of egg is just about equivalent to a pound of sugar or starch, and a little over 2 pounds of either would be required to equal a pound of the fat of meat or butter or of body fat.

The fuel value of food obviously depends upon the amounts of actual nutrients, and especially upon the amount of fat it contains. Thus a pound of wheat flour, which consists largely of starch, has an average fuel value of about 1,625 calories, and a pound of butter, which is mostly fat, about 3,410 calories. These are only about one-eighth water. Whole milk, which is seven-eighths water, has an average fuel value of 310 calories per pound; cream, which has more fat and less water, 865 calories, and skim milk, which is whole milk after the cream has been removed, 165 calories. This high fuel value of fat explains the economy of nature in storing fat in the body for use in case of need. Fat is the most concentrated form of body fuel.

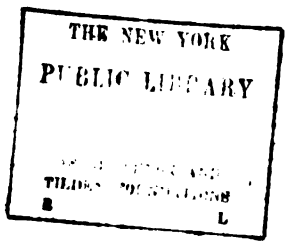
Material for Brain and Nerve Force

We have been considering food as a source of heat and muscular power. There is no doubt that intellectual activity, also, is somehow dependent upon the consumption of material which the brain has obtained from the food; but just what substances are consumed to produce brain and nerve force, and how much of each is required for a given quantity of intellectual labor, are questions which the physiological chemist has not yet answered.

Composition of Common Food Materials

The value of food for nutriment depends mainly upon its composition and digestibility. The composition of foods is determined by chemical analysis. The first effective impulse to the systematic study of the chemistry of foods was given by Liebig somewhat over 50 years ago, but nearly all of our definite knowledge of the chemical composition of food materials has accumulated within comparatively a few years past. The methods of chemical analysis of foods are now so nearly uniform throughout the world that the analyses reported from different countries furnish a reliable means of comparing the composition of the food products of different parts of the world.

Table I shows the average composition of ordinary American food materials as calculated from the analyses now available. The value of food as influenced by digestibility is discussed later. (See Table II, p. 235.)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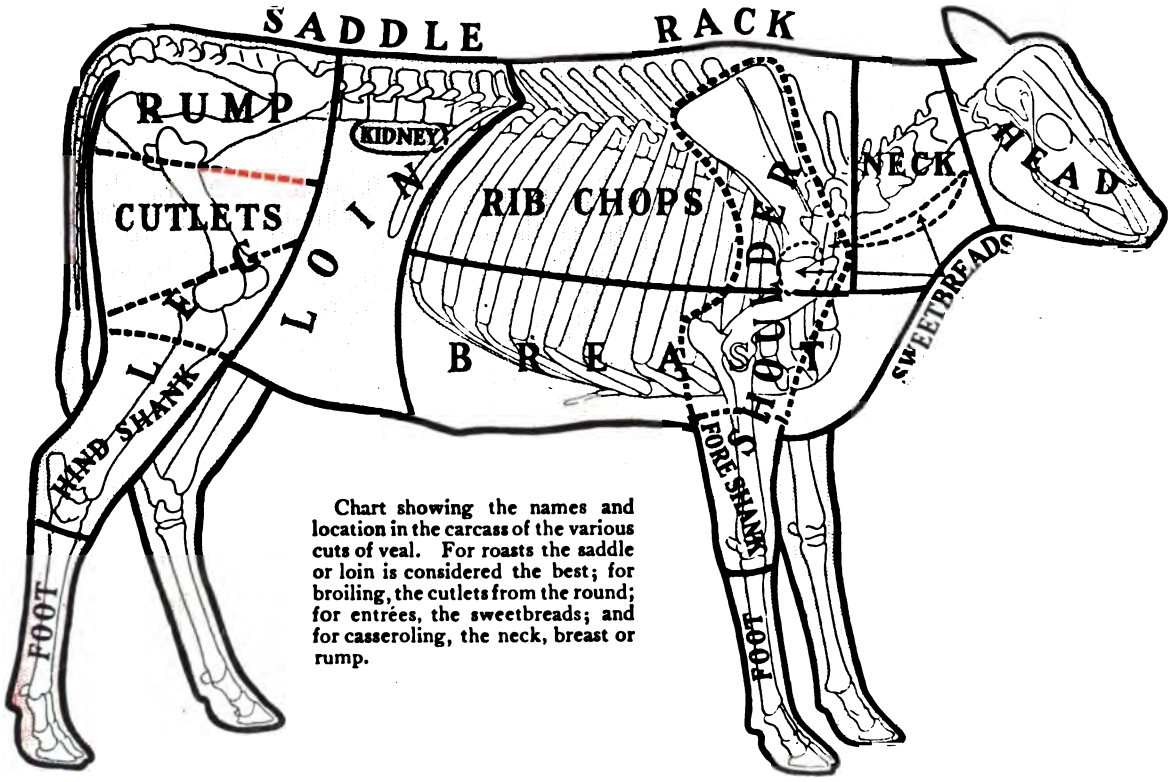

Chart showing the names and location in the carcass of the various cuts of veal. For roasts the saddle or loin is considered the best; for broiling, the cutlets from the round; for entrées, the sweetbreads; and for casseroling, the neck, breast or rump.

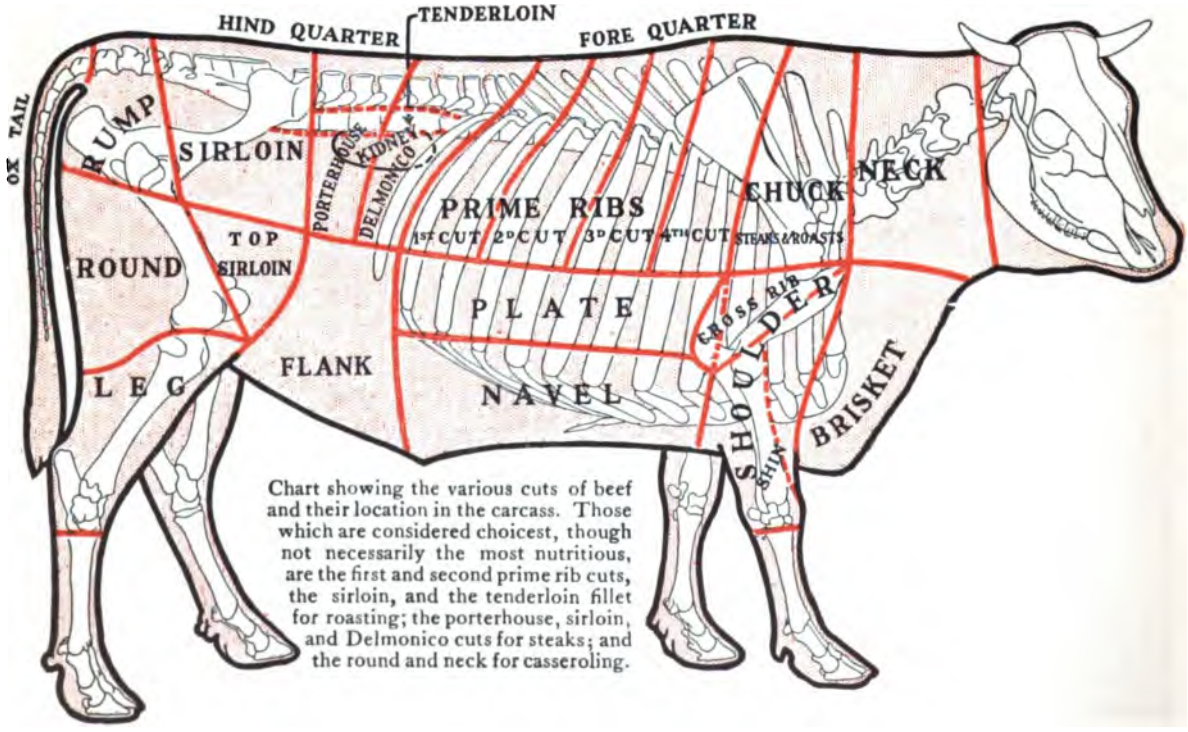

Chart showing the various cuts of beef and their location in the carcass. Those which are considered choicest, though not necessarily the most nutritious, are the first and second prime rib cuts, the sirloin, and the tenderloin fillet for roasting; the porterhouse, sirloin, and Delmonico cuts for steaks; and the round and neck for casseroling.

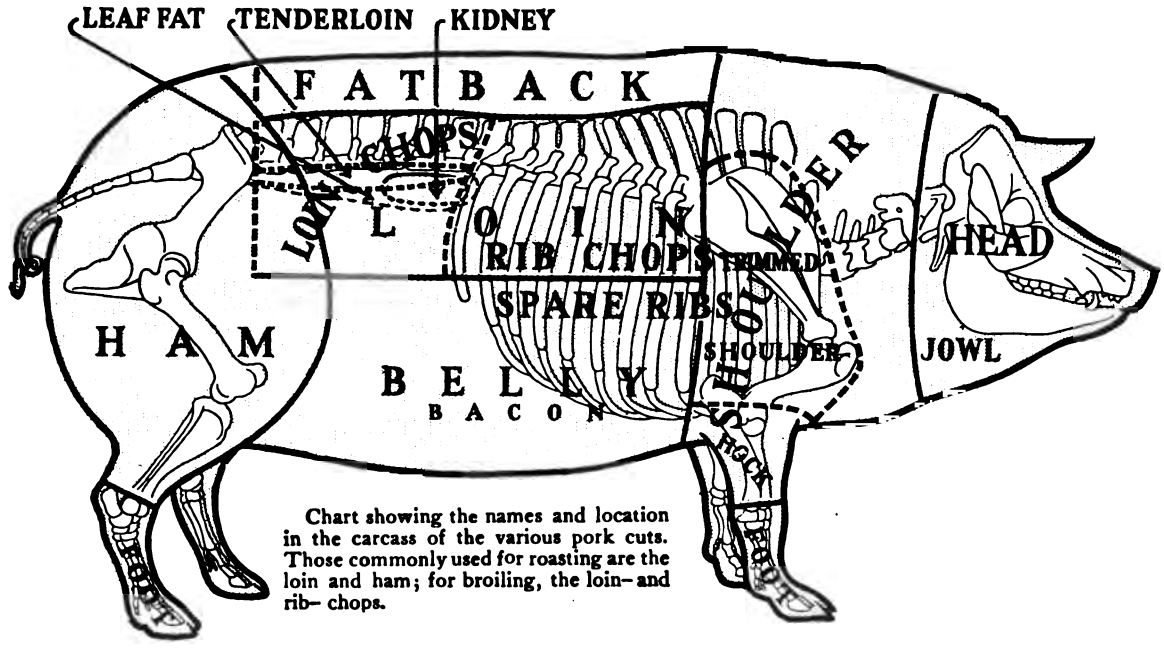

Chart showing the names and location in the carcass of the various pork cuts. Those commonly used for roasting are the loin and ham; for broiling, the loin- and rib- chops.

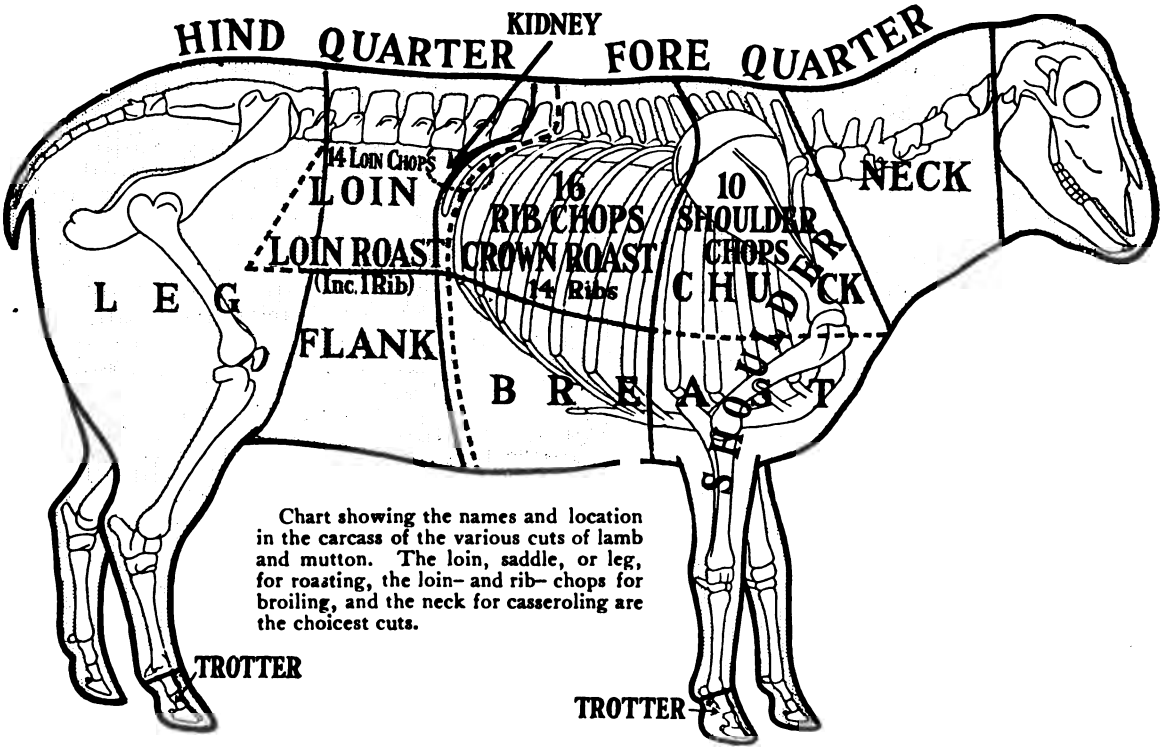

Chart showing the names and location in the carcass of the various cuts of lamb and mutton. The loin, saddle, or leg, for roasting, the loin- and rib- chops for broiling, and the neck for casseroling are the choicest cuts.

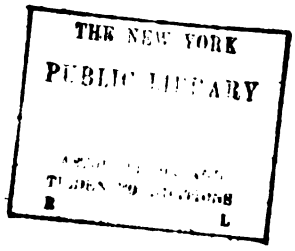
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TABLE I—AVERAGE COMPOSITION OF COMMON AMERICAN FOOD PRODUCTS

Food materials (as purchased)	Refuse	Water	Protein	Fat	Carbohydrates	Ash	Fuel value per pound
ANIMAL FOOD							
Beef, fresh:	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*	*Calories*
Chuck ribs	16.3	52.6	15.5	15.0	...	0.8	910
Flank	10.2	54.0	17.0	19.0	...	.7	1,105
Loin	13.3	52.5	16.1	17.5	...	.9	1,025
Porterhouse steak	12.7	52.4	19.1	17.9	...	.8	1,100
Sirloin steak	12.8	54.0	16.5	16.1	...	.9	975
Neck	27.6	45.9	14.5	11.9	...	.7	1,165
Ribs	20.8	43.8	13.9	21.2	...	.7	1,135
Rib rolls	...	63.9	19.3	16.7	...	.9	1,055
Round	7.2	60.7	19.0	12.8	...	1.0	890
Rump	20.7	45.0	13.8	20.2	...	.7	1,090
Shank, fore	36.9	42.9	12.8	7.3	...	.6	545
Shoulder and clod	16.4	56.8	16.4	9.8	...	.9	715
Fore quarter	18.7	49.1	14.5	17.5	...	.7	995
Hind quarter	15.7	50.4	15.4	18.3	...	.7	1,045
Beef, corned, canned, pickled, and dried:							
Corned beef	8.4	49.2	14.3	23.8	...	4.6	1,245
Tongue, pickled	6.9	58.9	11.9	19.2	...	4.3	1,010
Dried, salted, and smoked	4.7	53.7	26.4	6.9	...	8.9	790
Canned boiled beef	...	51.8	25.5	22.5	...	1.3	1,410
Canned corned beef	...	51.8	26.3	18.7	...	4.0	1,270
Veal:							
Breast	21.3	52.0	15.4	11.0	...	.8	745
Leg	14.2	60.1	15.5	7.9	...	.9	625
Leg cutlets	3.4	68.3	20.1	7.5	...	1.0	695
Fore quarter	24.5	54.2	15.1	6.0	...	.7	535
Hind quarter	20.7	56.2	16.2	6.6	...	.8	580
Mutton:							
Flank	9.9	39.0	13.8	36.9	...	.6	1,770
Leg, hind	18.4	51.2	15.1	14.7	...	.8	890
Loin chops	16.0	42.0	13.5	28.3	...	.7	1,415
Fore quarter	21.2	41.6	12.3	24.5	...	.7	1,235
Hind quarter, without tallow	17.2	45.4	13.8	23.2	...	.7	1,210
Lamb:							
Breast	19.1	45.5	15.4	19.1	...	.8	1,075
Leg, hind	17.4	52.9	15.9	13.6	...	.9	860
Pork, fresh:							
Ham	10.7	48.0	13.5	25.9	...	.8	1,320
Loin chops	19.7	41.8	13.4	24.2	...	.8	1,245
Shoulder	12.4	44.9	12.0	29.8	...	.7	1,450
Tenderloin	...	66.5	18.9	13.0	...	1.0	895
Pork, salted, cured, and pickled:							
Ham, smoked	13.6	34.8	14.2	33.4	...	4.2	1,635
Shoulder, smoked	18.2	36.8	13.0	26.6	...	5.5	1,335
Salt pork	...	7.9	1.9	86.2	...	3.9	3,555
Bacon, smoked	7.7	17.4	9.1	62.2	...	4.1	2,715
Sausage:							
Bologna	3.3	55.2	18.2	19.7	...	3.8	1,155
Pork	...	39.8	13.0	44.2	1.1	2.2	2,075
Frankfort	...	57.2	19.6	18.6	1.1	3.4	1,155
Soups:							
Celery, cream of	...	88.6	2.1	2.8	5.0	1.5	235
Beef	...	92.9	4.4	.4	1.1	1.2	120
Meat stew	...	84.5	4.6	4.3	5.5	1.1	365
Tomato	...	90.0	1.8	1.1	5.6	1.5	185
Poultry:							
Chicken, broilers	41.6	43.7	12.8	1.4	...	.7	305
Fowls	25.9	47.1	13.7	12.3	...	.7	765
Goose	17.6	38.5	13.4	29.8	...	.7	1,475
Turkey	22.7	42.4	16.1	18.4	...	.8	1,060
Fish:							
Cod, dressed	29.9	58.5	11.1	.2	...	.8	220
Halibut, steaks or sections	17.7	61.9	15.3	4.4	...	.9	475
Mackerel, whole	44.7	40.4	10.2	4.2	...	.7	370
Perch, yellow, dressed	35.1	50.7	12.8	.7	...	.9	275
Shad, whole	50.1	35.2	9.4	4.8	...	.7	380
Shad, roe	...	71.2	20.9	3.8	2.6	1.5	600
Fish, preserved:							
Cod, salt	24.9	40.2	16.0	.4	...	18.5	325
Herring, smoked	44.4	19.2	20.5	8.8	...	7.4	755
Fish, canned:							
Salmon	...	63.5	21.8	12.1	...	2.6	915
Sardines	*5.0	53.6	23.7	12.1	...	5.3	950

* Oil.

TABLE I—AVERAGE COMPOSITION OF COMMON AMERICAN FOOD PRODUCTS—*Continued*

Food materials (as purchased)	Refuse	Water	Protein	Fat	Carbohydrates	Ash	Fuel value per pound
ANIMAL FOOD—*Continued*							
Shellfish:	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*	*Calories*
Oysters, "solids"	...	88.3	6.0	1.3	3.3	1.1	225
Clams	...	80.8	10.6	1.1	5.2	2.3	340
Crabs	52.4	36.7	7.9	.9	.6	1.5	200
Lobsters	61.7	30.7	5.9	.7	.2	.8	145
Eggs: Hens' eggs	*11.2	65.5	13.1	9.3	...	0.9	635
Dairy products, etc.:							
Butter	...	11.0	1.0	85.0	...	3.0	3,410
Whole milk	...	87.0	3.3	4.0	5.0	.7	310
Skim milk	...	90.5	3.4	.3	5.1	.7	165
Buttermilk	...	91.0	3.0	.5	4.8	.7	160
Condensed milk	...	26.9	8.8	8.3	54.1	1.9	1,430
Cream	...	74.0	2.5	18.5	4.5	.5	865
Cheese, Cheddar	...	27.4	27.7	36.8	4.1	4.0	2,075
Cheese, full cream	...	34.2	25.9	33.7	2.4	3.8	1,885
VEGETABLE FOOD							
Flour, meal, etc.:							
Entire-wheat flour	...	11.4	13.8	1.9	71.9	1.0	1,650
Graham flour	...	11.3	13.3	2.2	71.4	1.8	1,645
Wheat flour, patent roller process—							
High-grade and medium	...	12.0	11.4	1.0	75.1	.5	1,635
Low grade	...	12.0	14.0	1.9	71.2	.9	1,640
Macaroni, vermicelli, etc.	...	10.3	13.4	.9	74.1	1.3	1,645
Wheat breakfast food	...	9.6	12.1	1.8	75.2	1.3	1,680
Buckwheat flour	...	13.6	6.4	1.2	77.9	.9	1,605
Rye flour	...	12.9	6.8	.9	78.7	.7	1,620
Corn meal	...	12.5	9.2	1.9	75.4	1.0	1,635
Oat breakfast food	...	7.7	16.7	7.3	66.2	2.1	1,800
Rice	...	12.3	8.0	.3	79.0	.4	1,620
Tapioca	...	11.4	.4	.1	88.0	.1	1,650
Starch	...	...	...	...	90.0	..	1,675
Bread, pastry, etc.:							
White bread	...	35.3	9.2	1.3	53.1	1.1	1,200
Brown bread	...	43.6	5.4	1.8	47.1	2.1	1,040
Graham bread	...	35.7	8.9	1.8	52.1	1.5	1,195
Whole-wheat bread	...	38.4	9.7	.9	49.7	1.3	1,130
Rye bread	...	35.7	9.0	.6	53.2	1.5	1,170
Cake	...	19.9	6.3	9.0	63.3	1.5	1,630
Cream crackers	...	6.8	9.7	12.1	69.7	1.7	1,925
Oyster crackers	...	4.8	11.3	10.5	70.5	2.9	1,910
Soda crackers	...	5.9	9.8	9.1	73.1	2.1	1,875
Sugars, etc.:							
Molasses	...	...	...	...	70.0	..	1,225
Candy †	...	...	...	...	96.0	..	1,680
Honey	...	...	...	...	81.0	..	1,420
Sugar, granulated	...	...	...	...	100.0	..	1,750
Maple sirup	...	...	...	...	71.4	..	1,250
Vegetables: ‡							
Beans, dried	...	12.6	22.5	1.8	59.6	3.5	1,520
Beans, Lima, shelled	...	68.5	7.1	.7	22.0	1.7	540
Beans, string	7.0	83.0	2.1	.3	6.9	.7	170
Beets	20.0	70.0	1.3	.1	7.7	.9	160
Cabbage	15.0	77.7	1.4	.2	4.8	.9	115
Celery	20.9	75.6	.9	.1	2.6	.8	65
Corn, green (sweet), edible portion	...	75.4	3.1	1.1	19.7	.7	440
Cucumbers	15.0	81.1	.7	.2	2.6	.4	65
Lettuce	15.0	80.5	1.0	.2	2.5	.8	65
Mushrooms	...	88.1	3.5	.4	6.8	1.2	185
Onions	10.0	78.9	1.4	.3	8.9	.5	190
Parsnips	20.0	66.4	1.3	.4	10.8	1.1	230
Peas (*Pisum sativum*), dried	...	9.5	24.6	1.0	62.0	2.9	1,565
Peas (*Pisum sativum*), shelled	...	74.6	7.0	.5	16.9	1.0	440
Cowpeas, dried	...	13.0	21.4	1.4	60.8	3.4	1,505
Potatoes	20.0	62.6	1.8	.1	14.7	.8	295
Rhubarb	40.0	56.6	.4	.4	2.2	.4	60
Sweet potatoes	20.0	55.2	1.4	.6	21.9	.9	440
Spinach	...	92.3	2.1	.3	3.2	2.1	95
Squash	50.0	44.2	.7	.2	4.5	.4	100
Tomatoes	...	94.3	.9	.4	3.9	.5	100
Turnips	30.0	62.7	.9	.1	5.7	.6	120

* Shell.

† Plain confectionery not containing nuts, fruit, or chocolate.

‡ Such vegetables as potatoes, squash, beets, etc., have a certain amount of inedible material, skin, seeds, etc. The amount varies with the method of preparing the vegetables, and cannot be accurately estimated. The figures given for refuse of vegetables, fruits, etc., are assumed to represent approximately the amount of refuse in these foods as ordinarily prepared.

TABLE I—AVERAGE COMPOSITION OF COMMON AMERICAN FOOD PRODUCTS—*Continued*

Food materials (as purchased)	Refuse	Water	Protein	Fat	Carbohydrates	Ash	Fuel value per pound
VEGETABLE FOOD—*Continued*							
Vegetables, canned:	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*	*Calories*
Baked beans	...	68.9	6.9	2.5	19.6	2.1	555
Peas (*Pisum sativum*), green	...	85.3	3.6	.2	9.8	1.1	235
Corn, green	...	76.1	2.8	1.2	19.0	.9	430
Succotash	...	75.9	3.6	1.0	18.6	.9	425
Tomatoes	...	94.0	1.2	.2	4.0	.6	95
Fruits, berries, etc., fresh:*							
Apples	25.0	63.3	0.3	0.3	10.8	0.3	190
Bananas	35.0	48.9	.8	.4	14.3	.6	260
Grapes	25.0	58.0	1.0	1.2	14.4	.4	295
Lemons	30.0	62.5	.7	.5	5.9	.4	125
Muskmelons	50.0	44.8	.3	...	4.6	.3	80
Oranges	27.0	63.4	.6	.1	8.5	.4	150
Pears	10.0	76.0	.5	.4	12.7	.4	230
Persimmons, edible portion	...	66.1	.8	.7	31.5	.9	550
Raspberries	..	85.8	1.0	...	12.6	.6	220
Strawberries	5.0	85.9	.9	.6	7.0	.6	150
Watermelons	59.4	37.5	.2	.1	2.7	.1	50
Fruits, dried:							
Apples	...	28.1	1.6	2.2	66.1	2.0	1,185
Apricots	...	29.4	4.7	1.0	62.5	2.4	1,125
Dates	10.0	13.8	1.9	2.5	70.6	1.2	1,275
Figs	...	18.8	4.3	.3	74.2	2.4	1,280
Raisins	10.0	13.1	2.3	3.0	68.5	3.1	1,265
Nuts:							
Almonds	45.0	2.7	11.5	30.2	9.5	1.1	1,515
Brazil nuts	49.6	2.6	8.6	33.7	3.5	2.0	1,485
Butternuts	86.4	.6	3.8	8.3	.5	.4	385
Chestnuts, fresh	16.0	37.8	5.2	4.5	35.4	1.1	915
Chestnuts, dried	24.0	4.5	8.1	5.3	56.4	1.7	1,385
Cocoanuts	†48.8	7.2	2.9	25.9	14.3	.9	1,295
Cocoanut, prepared	...	3.5	6.3	57.4	31.5	1.3	2,865
Filberts	52.1	1.8	7.5	31.3	6.2	1.1	1,430
Hickory nuts	62.2	1.4	5.8	25.5	4.3	.8	1,145
Pecans, polished	53.2	1.4	5.2	33.3	6.2	.7	1,465
Peanuts	24.5	6.9	19.5	29.1	18.5	1.5	1,775
Piñon (*Pinus edulis*)	40.6	2.0	8.7	36.8	10.2	1.7	1,730
Walnuts, black	74.1	.6	7.2	14.6	3.0	.5	730
Walnuts, English	58.1	1.0	6.9	26.6	6.8	.6	1,250
Miscellaneous:							
Chocolate	...	5.9	12.9	48.7	30.3	2.2	2,625
Cocoa, powdered	...	4.6	21.6	28.9	37.7	7.2	2,160
Cereal coffee, infusion (1 part boiled in 20 parts water)‡	...	98.2	.2	...	1.4	.2	30

* Fruits contain a certain proportion of inedible materials, as skin, seeds, etc., which are properly classed as refuse. In some fruits, as oranges and prunes, the amount rejected in eating is practically the same as refuse. In others, as apples and pears, more or less of the edible material is ordinarily rejected with the skin and seeds and other inedible portions. The edible material which is thus thrown away, and should properly be classed with the waste, is here classed with the refuse. The figures for refuse here given represent, as nearly as can be ascertained, the quantities ordinarily rejected.

† Milk and shell.

‡ The average of five analyses of cereal coffee grain is: Water 6.2, protein 13.3, fat 3.4, carbohydrates 72.6, and ash 4.5 per cent. Only a portion of the nutrients, however, enter into the infusion. The average in the table represents the available nutrients in the beverage. Infusions of genuine coffee and of tea like the above contain practically no nutrients.

Proportions of Non-Nutrients in Foods

It will be interesting to note some of the differences in food materials as shown by their composition. One of the first things which may be observed when a table like the above is studied, is the differences in the proportions of non-nutrients, *i.e.*, refuse and water. Many kinds of food, as they are purchased, contain large amounts of refuse, as the skin and bones of meat and fish, the skin or rind and seeds of vegetables, etc., which necessarily lessen the proportion of nutrients. While such refuse is found in meats, fish, eggs, fresh vegetables, and fruits, it is usually absent in the dairy products (milk, butter, cheese, etc.), dried vegetables, cereal foods (flour, breakfast foods, etc.), and the bread, cakes, and other foods prepared from them. In considering the edible portion we find that the amount of water present also affects the nutritive value of food. Water is necessary to the body, and it is usually supplied in abundance by beverages, although the amount contained in the solid food consumed in a day is quite considerable. Water forms from 40 to 50 per cent of the ordinary cuts of meat; it is especially abundant in the flesh of lean animals, and tends to decrease as fat increases, and vice versa. It is even more abundant in fresh

fish than in meats, but in dried fish there is of course comparatively little. Fresh vegetables and fruits contain sometimes as much as 80 or 90 per cent. or more of water, while dried seeds and the food materials prepared from them (beans, peas, meals, flour, cereal breakfast foods, etc.) usually contain, roughly speaking, from 10 to 12 per cent. of water. Many cooked foods contain more water than the raw materials from which they are made, owing to the quantities added in cooking. Thus some thin soups are little more than flavored and colored water, and of course have an extremely low nutritive value. In other cooked foods, notably meat, which have been baked, roasted, or fried, the amount of water is diminished by cooking.

Protein.—The most important of the actual nutrients has been seen to be protein. This occurs most abundantly in animal foods—meat, fish, eggs, and dairy products, and in the dried legumes, as beans and peas. Butter and lard are exceptions to this statement, as they represent the fat of milk and meat. The proportion of protein present in meats and fish varies greatly with the kind and cut. In beef, veal, and mutton it composes between 14 and 26 per cent. of the edible portion. It is generally less abundant in the flesh of fish, because the latter is more watery than meat. The fatter the meat the smaller is the proportion of protein; lean pork has less than beef and mutton, and fat pork almost none. It is more abundant in cheese (28-38 per cent.) and likewise in dried beans and peas (18-25 per cent.). Protein makes up, roughly speaking, from 7 to 15 per cent. of the cereals, being least abundant in rye and buckwheat and most abundant in oats. Wheat flour averages not far from 11 per cent. and bread not far from 9 per cent. of protein. Fresh vegetables and fruits contain almost no protein, seldom if ever more than 5 and often only 1 per cent. or less.

Fats.—The chief sources of fat in ordinary diet are the animal foods, though some fat is derived from vegetable foods. The quantities present in meats vary considerably, ranging from less than 10 per cent. in some cuts of beef and veal, to over 40 per cent. in a side of pork and over 80 per cent. in fat salt pork. The leaner fish, like cod and haddock, usually contain almost none, but in the fatter kind, like shad, mackerel, and notably salmon, there is often from 5 to 10 per cent. and sometimes as much as 15 per cent. of fat. The chemical composition of salmon is not unlike that of lean meat. In both meat and fish the increase of fat usually means a decrease in the proportion of water, as was stated above. Milk averages about 4 per cent. of fat. Butter is, as we have seen, nearly pure fat, and whole milk cheese may have anywhere from 25 to 40 per cent. of fat, according to the richness of the cream or milk from which it is made.

The olive and the cotton seed are rich in fat, large quantities of them being used annually for the production of oils. Most of our common edible nuts also contain considerable fat. With the exception of oatmeal, which contains about 7 per cent., there is comparatively little fat in the cereals in the form in which they are ordinarily purchased, or in the dried legumes, while in the green vegetables and most fruits it is practically wanting.

Carbohydrates.—The carbohydrates, unlike the fats, are almost entirely absent from the animal foods, except milk, but form the most important nutrient of most vegetable foods. Some glycogen (a carbohydrate) is found in the liver and in other animal tissues. The carbohydrates make up from 70 to 80 per cent. of the cereals, 60 to 70 per cent. of the dried legumes, and the bulk of the nutrients of fresh vegetables and fruits. The nutrients of sugar, molasses, honey, etc., are, of course, almost entirely carbohydrates.

Mineral.—Mineral matters occur in all the ordinary articles of food. Fresh meats and fish contain not far from 1 per cent., although in fat, unsalted pork the quantity may be as small as 0.1 per cent. Milk contains about 0.7 per cent. mineral matters. In the cereals the proportion ranges from about 0.3 to over 2 per cent., while in green vegetables and fruits it is usually less than 1 per cent. The dried legumes contain from 3 to 4 per cent. of mineral matters.

In brief, then, it may be said that meats, fish, eggs, milk, fresh vegetables, and fruits contain the most refuse and water; that protein is most abundant in the animal foods and in the legumes and occurs in considerable quantities in the cereals; that fats occur principally in the animal foods; that carbohydrates are found almost exclusively in the vegetable products and milk; and that small quantities of mineral matters are found in all food materials. The fuel value varies within wide limits, being greatest in those materials which contain the most fat and the least water.

Digestion, Assimilation, and Excretion

"We live not upon what we eat, but upon what we digest." Food must go through a series of chemical changes by what is called digestion, which prepare it to be absorbed, taken into the blood and lymph, and carried to the parts of the body where it is needed. Digestion takes place in the alimentary canal, partly in the stomach, but more in the intestine. As the result, the use-

less portions are separated and rejected, while the parts which can serve for nutriment are changed into forms in which they can be absorbed, taken into the circulation, and utilized.

Digestion

The alterations which the food undergoes in digestion are brought about by substances called ferments, which are secreted by the digestive organs. The saliva in the mouth has the power of changing insoluble starches into soluble sugar, but as the food stays in the mouth only a short time, there is generally little chance for such action. The saliva, however, helps to fit the food to be more easily worked on by the stomach. The gastric juice of the stomach acts upon protein, and the pancreatic juice of the intestine upon protein, fats, and carbohydrates. The action of all the ferments is aided by the fine division of the food by chewing and by the muscular contractions, the so-called peristaltic action, of the stomach and intestine. These latter motions help to mix the digestive juices and their ferments with the food.

The parts of the food which the digestive juices cannot dissolve, and which therefore escape digestion, are periodically given off by the intestine. Such solid excreta, or feces, include not only the particles of undigested food, but also the so-called metabolic products, *i.e.*, residues of the digestive juices, bits of the lining of the alimentary canal, etc.

Absorption and Assimilation

The digested food finds its way through the walls of the alimentary canal, and at this time and later it undergoes remarkable chemical changes. When finally the blood, supplied with the nutrients of the digested food and freighted with oxygen from the lungs, is pumped from the heart all over the body it is ready to furnish the organs and tissues with the materials and energy which they need for their peculiar functions; at the same time it carries away the waste which the exercise of these functions has produced. It is a characteristic of living body tissue that it can choose the necessary materials from the blood and build them into its own structure. How it does this is one of the mysteries of physiology. The body, as we have learned, has also the power of consuming not only the materials of the food, but also parts of its own structure for the production of muscular work, or heat, or to protect more important parts from consumption. How it does this is another mystery, which, like others connected with the wonderful human machine, still remains to be explained.

Excretion

After the material has been thus assimilated and utilized the resulting waste products must be removed from the body. The chemical elements which this waste contains are of course the same as those making up the structure of the body and the food—carbon, oxygen, hydrogen, nitrogen, calcium, phosphorus, sulphur, etc. Most of the carbon and part of the oxygen are given off from the lungs as carbon dioxid. Hydrogen unites with more oxygen to form water, which is passed off in vapor from the lungs, in perspiration from the skin, and in urine from the kidneys. Almost all the nitrogen is excreted in the urine. Waste mineral matters are given off to some extent in the perspiration, but mainly through the kidneys and intestines.

Apparent and Actual Digestibility

The real nutritive value of a food, then, depends not simply on the proportions of nutrients which it contains, but also on the amount of those nutrients which can be made available to the body by digestion for building material and for fuel. Part of the food eaten escapes digestion and is given off from the body in the feces. If we subtract the amount of this undigested residue from the total food, the remainder will be the amount actually digested in the stomach and intestines, absorbed through their walls, and taken into the circulation. This difference between the amounts eaten and those undigested represents the actual digestibility of food. A part of the food taken into the circulation, however, is returned again to the alimentary canal mainly in the digestive juices that are needed for digesting the food. The material thus removed from circulation and returned to the alimentary canal, the metabolic products, is excreted with the undigested residue in the feces. The remainder of the food taken into the circulation represents the amount retained by the body for building material and for fuel. The difference between the food which is absorbed and that which the body secures, therefore, is represented by the metabolic products. By the present methods of experimenting, however, the portion of the feces that consists of metabolic products cannot be satisfactorily distinguished from the undigested residue. It is very difficult, therefore, to determine the actual digestibility, but comparatively easy to estimate the apparent digestibility of food.

Suppose, for instance, that 15 per cent. of the protein in a specimen of bread is excreted, then 85 per cent. remains for the use of the body. If

the bread has 8.4 per cent. of protein, 100 pounds will have 8.4 pounds, of which 85 per cent. or 7.1 pounds will be utilized by the body.

Ease and Quickness of Digestion

The terms digestible, indigestible, etc., as here used refer simply to the food which is or is not available for the general nourishment of the body after the process of digestion is completed. In common parlance, however, they are used more loosely as referring to the ease and quickness of digestion, and to the general healthfulness of food. One kind of food—bread, for instance—is spoken of as "simple" and "digestible," and another, like fruit cake, as "rich" and "indigestible." There is often much practical truth behind such statements, though little is definitely known concerning the time or labor required to digest different kinds of food.

Food does not ordinarily pass from the stomach into the intestine until it has been made liquid or semi-liquid. It has been found that the amount and consistency of food have a marked influence on the rate of digestion in the stomach. Fluids leave the stomach more rapidly than other materials. From 6 to 7 ounces of water or other common beverages leave the stomach in 1½ hours. Seven ounces of boiled milk leave the stomach in about 2 hours. Hot drinks do not leave the stomach more quickly than cold ones, nor does the quantity have much effect. Solid matter in solution or suspension delays the passage of fluid from the stomach somewhat. The consistency of solid foods thus seems to have more effect upon digestibility than the amount consumed. The quantity eaten increases the length of time the material remains in the stomach, but not proportionally.

To select a few examples of the time required for foods to leave the stomach: Two eggs (raw, poached, or in the form of an omelet), 7 ounces sweetbreads, 10 moderate-sized oysters, 7 ounces white-fish or 3½ ounces of white bread, cauliflowers, or cherries, each left the stomach in from 2 to 3 hours. Eignt and one-fourth ounces of chicken, 9 ounces of lean beef, 6 ounces boiled ham, 3½ ounces roast veal or beefsteak, 5⅓ ounces of coarse bread, boiled rice, carrots, spinach, radish, or apple, left the stomach in 3 to 4 hours. Nine ounces of smoked tongue, 3½ ounces smoked beef, 9 ounces roast goose, 5⅓ ounces string beans, or 7 ounces peas porridge, left the stomach in 4 to 5 hours.

Generally speaking, the most readily digested animal foods are materials of soft consistency. White meats—for example, chicken—leave the stomach more quickly than red meats or dark meat—for instance, duck. The method of cooking also exerts a very marked influence on stomach digestion. Fresh fish is more readily digested than meats.

As regards vegetable foods in general, the consistency and the amounts of solid material were again the principal factors affecting the time required for digestion in the stomach. Mealy potatoes, for instance, were more easily digested than waxy potatoes, and mashed potato more readily than potato cut up in pieces. Fine bread was more quickly digested than coarse bread. There was not much difference in the time required for bread crust, bread crumb, toast, new bread, and stale bread to digest in the stomach, provided all were equally well chewed.

It must be remembered that digestion continues in the intestine and that the total time required for the digestion and absorption of the nutrients in any given food material is not shown by such experiments. They find their chief application in prescribing a diet for invalids, as in such cases it is often desirable to require of the stomach only a limited amount of work.

Agreement of Food with Individuals

Digestibility is often confused with another very different thing, namely, the agreeing or disagreeing of food with the person who eats it. During the process of digestion and assimilation the food, as we have seen, undergoes many chemical changes, some of them in the intestines, some in the liver, muscles, and other organs. In these changes chemical compounds may be formed which are in one way or another unpleasant and injurious, especially if they are not broken down (as normally they are) before they have opportunity thus to act. Some of the compounds produced from the food in the body may be actually poisonous.

Different persons are differently constituted with respect to the chemical changes which their food undergoes and the effect produced, so that it may be literally true that "one man's meat is another man's poison." Milk is for most people a very wholesome, digestible, and nutritious food, but there are persons who are made ill by drinking it, and they should avoid milk. Indeed, cases in which the most wholesome kinds of food are hurtful to individual persons are, unfortunately, numerous. Every man must learn from his own experience what food agrees with him and what does not.

How much harm is done by the injurious compounds sometimes formed from ordinary wholesome foods is seldom realized. Physiological chemistry is revealing the fact that these com-

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Courtesy of Good Housekeeping Magazine

1—Delmonico, incorrectly called club steak. 2—Round-bone sirloin steak. 3—The porterhouse nearest the hip-bone, co
of lamb or mutton. *8—English or tail saddle of lamb or mutton with kidney knobs showing at the top.* 9-
12—Chuck-ribs, an economical large roast. 13—Lamb chops: upper left, two loin-chops: right, two

greatest amount of fillet. 4—Prime ribs, second cut. 5—Prime ribs, first cut. 6—Round steak. 7—Short or loin saddle
ibs, third cut, showing tip of shoulder-blade. 10—Hip-bone sirloin steak. 11—Flat or double-bone sirloin steak.
ib-chops: lower row, left to right, a *rib* shoulder chop, round-bone shoulder-chop, and two rib-chops.

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pounds may affect even the brain and nerves, and that some forms of insanity are caused by products formed by the abnormal transformations of food and body material.

Preparation of Food—Cooking

Chief Purposes of Cooking.—The cooking of food has much to do with its nutritive value. Many articles which, owing to their mechanical condition or other cause, are quite unfit for nourishment when raw are very nutritious when cooked. It is also a matter of common experience that a well-cooked food is wholesome and appetizing, while the same material badly cooked is unpalatable. There are three chief purposes of cooking. The first is to change the mechanical condition so that the digestive juices can act upon the food more freely. Heating often changes the structure of food materials, so that they are more easily chewed and more easily and thoroughly digested. The second is to make it more appetizing by improving the appearance or flavor, or both. Food which is attractive to the taste quickens the flow of saliva and other digestive juices, and thus digestion is aided. The third is to kill by heat any disease germs, parasites, or other dangerous organisms it may contain. This is often a very important matter, and applies to both animal and vegetable foods.

Meats.—The cooking of meats develops the pleasing taste and odor of extractives and that due to the browned fat and tissues and softens and loosens the protein (gelatinoids) of the connective tissues, and thus makes the meat more tender. Extreme heat, however, tends to coagulate and harden the albuminoids of the lean portions, and also weakens the flavor of extractives. If the heating is carried too far a burned or charred product of bad flavor results.

Meats lose weight in cooking. A small part of this is due to escape of meat juices and fat, but the chief part of the material lost is simply water. The nutritive value of a meat soup depends upon the substances which are dissolved out of the meat, bones, and gristle by the water. In ordinary meat broth these consist almost wholly of extractives and salts, which are very agreeable and often most useful as stimulants, but have little or no value as actual nutriment, since they neither build tissue nor yield energy. The principles which underlie the cooking of fish are essentially the same as with meats.

Vegetables.—In many vegetables the valuable carbohydrates, chiefly microscopic starch grains, are contained in tiny cells with thick walls on which the digestive juices have little effect. The heat of cooking, especially with the aid of water, ruptures these walls and also makes the starch more soluble. The heat also caramelizes a portion of the carbohydrates and produces agreeable flavors in this and other ways.

Bread and Flour Products.—In breads, cakes, pastry, and other foods prepared from flour, the aim is to make a palatable and lighter porous substance more easily broken up in the alimentary canal than the raw materials could be. Sometimes this is accomplished simply by means of water and heat. The heat changes part of the water in the dough into steam, which, in trying to escape, forces the particles of dough apart. The protein (gluten) of the flour stiffens about the tiny bubbles thus formed and the mass remains porous even after the steam has escaped. More often, however, other things are used to "raise" the dough—such as yeast and baking powder. The baking powder gives off the gas carbon dioxid and the yeast causes fermentation in the dough by which carbon dioxid is produced. This acts as the steam does, only much more powerfully. When beaten eggs are used, the albumen incloses air bubbles which expand, and the walls stiffen with the heat and thus render the food porous.

Cleanliness and Neatness.—Scrupulous neatness should always be observed in keeping, handling, and serving food. If ever cleanliness is desirable, it must be in the things we eat, and every care should be taken to insure it for the sake of health as well as of decency. Cleanliness in this connection means not only absence of visible dirt, but freedom from undesirable bacteria and other minute organisms, and from worms and other parasites. If food, raw or cooked, is kept in dirty places, peddled from dirty carts, prepared in dirty rooms and in dirty dishes, or exposed to foul air, disease germs and other offensive and dangerous substances can easily get in.

Bacteria and Parasites in Food.—Food and drink may, in fact, be very dangerous purveyors of disease. The bacteria of typhoid fever sometimes find their way into drinking water, and those of typhoid and scarlet fevers and diphtheria into milk, and bring sickness and death to large numbers of people. Oysters which are taken from the salt water where they grow and "floated" for a short time in brackish water near the mouth of a stream, have been known to be infected by typhoid fever germs brought into the stream by the sewage from houses where the dejections from patients had been thrown into the drains. Celery or lettuce grown in soil containing typhoid germs has been thought to convey this disease.

Food materials may also contain parasites, like

tapeworms in beef, pork, and mutton, and trichinæ in pork, which are often injurious and sometimes deadly in their effect. This danger is not confined to animal foods. Vegetables and fruits may become contaminated with eggs of numerous parasites from the fertilizers applied to them. Raw fruits and vegetables should always be very thoroughly washed before serving if there is any doubt as to their cleanliness. If the food is sufficiently heated in cooking, all organisms are killed.

Decomposition.—Sometimes food undergoes decomposition in which injurious chemical compounds, so-called ptomaines, are formed. Poisoning by cheese, ice cream, preserved fish, canned meats, and the like has been caused in this way. The ptomaines often withstand the heat of cooking.

In some cases it has been found that foods are adulterated with compounds injurious to health; but sophistication in which harmless articles of inferior cost or quality are added is more common.

Serving.—Dainty ways of serving food have a usefulness beyond their æsthetic value. Everyone knows that a feeble appetite is often tempted by a tastefully garnished dish, when the same material carelessly served would seem quite unpalatable. Furthermore, many cheap articles and "left-overs" when well seasoned and attractively served may be just as appetizing as dearer ones, and will usually be found quite as nutritious.

Making Home Studies of Dietaries—The Most Nutriment for the Least Money

Any housekeeper who wishes to know how the nutritive value of the food she provides for her family corresponds with the dietary standards can easily make a simple dietary study in her home, and by so doing can perhaps not only provide meals that are more in accordance with the needs of her family, but frequently also save money by substituting less expensive but equally nutritious and attractive food materials for some of those usually served.

The simplest way to make such a study is to weigh all different kinds of food materials in the house at a given time, say after supper, recording the weights in a convenient book. All the food purchased during the days during which the diet is being studied is weighed and recorded, and at the close of the study, which may be conveniently of seven or ten days' duration, all food materials remaining on hand are weighed as before. From the quantities of the different kinds of food on hand at the beginning and purchased during the period are subtracted the quantities left on hand at the close of the study. The difference represents the amounts used. The quantity of nutrients in the different materials is calculated from the figures for percentage composition given in Table I, or in other more comprehensive tables. It is to be remembered that in a short period, such as a day or two days, the diet may fluctuate according to the materials used so as to give more of one kind of nutrients and less of another, or more or less total nutrients than the average diet, while in periods of a week or ten days the diet is more likely to approach an average.

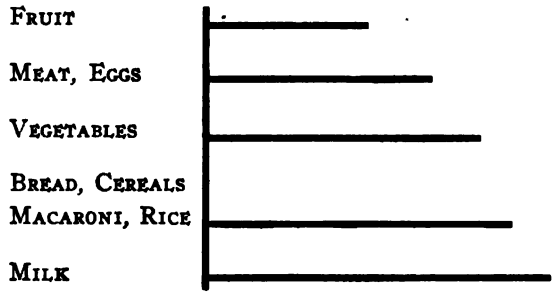
Pecuniary Economy of Food

The cost of food is the principal item in the living expenses of a large majority of people, and although the physical welfare of all is so intimately connected with and dependent upon diet, very few of even the most intelligent have any clear ideas regarding the actual nutriment in the different food materials they use. In too many cases even those who wish and try to economize know very little as to the combinations which are best fitted for their nourishment and have still less information as to the relation between the real nutritive value of different foods and their cost.

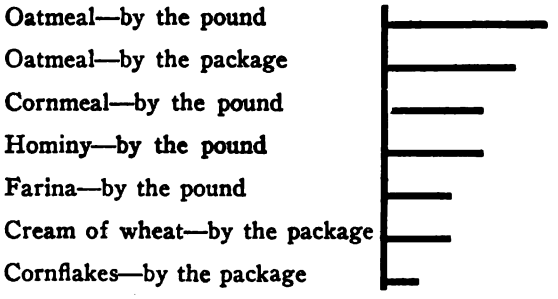
The question here to be considered is this: Of the different food materials which are palatable, nutritious, and otherwise suited for nourishment, what ones are pecuniarily the most economical; in other words, what ones furnish the largest amounts of available nutrients at the lowest cost? In answering this question it is necessary to take into account not only the prices per pound, quart, or bushel of the different materials, but also the kinds and amounts of the actual nutrients they contain and their fitness to meet the demands of the body for nourishment. The cheapest food is that which supplies the most nutriment for the least money. The most economical food is that which is cheapest and at the same time best adapted to the needs of the user.

TABLE II—COMPARATIVE COST OF DIFFERENT FOOD MATERIALS AT AVERAGE PRICES

This is the comparative value of what you get in return for the money you spend for such foods as:



The length of the lines below gives the comparative return in food-value for the money spent for the cereals indicated:



"Calories" and Economies

The most practical use that the purchasing housewife has for "calories" is to buy the most of them possible for the money. The writer has been looking for some definite estimates as to the food-value of various common provisions in proportion to their cost. He finds this in excellent form in Lenna F. Cooper's "How to Cut Food Costs," figured out on the basis of what you can buy for a cent. The results are informing and sometimes startling.

Take for example the fact that all household economists are constantly emphasizing, the superior value of milk to meat for its cost. Here are the figures:

Porterhouse steak	27	calories for one cent
Veal chops	16	" " " "
Ham	40	" " " "
Milk	70	" " " "

In buying breakfast foods have you not often discovered that the satisfaction they give is not in proportion to the advertisements? Miss Cooper's estimates tell why:

Rolled oats	297	calories for one cent
Whole wheat	281	" " " "
Rice	196	" " " "
Puffed rice	26	" " " "

Here is a striking contrast as to the values of certain fresh and dried fruits:

Raisins	116	calories for one cent
Apples	91	" " " "
Prunes	79	" " " "
Strawberries	23	" " " "

But perhaps her most instructive comparison is as to the value of the vegetables, bearing out the well-known acknowledgment of premier place to the humble potato, Irish or Southern.

Sweet potatoes	73	calories for one cent
Potatoes	50	" " " "
Corn	37	" " " "
Beets	10–35	" " " "
Green peas	20	" " " "
Sauerkraut	13	" " " "
Radishes	4	" " " "
Asparagus	3	" " " "

Tomatoes, "chiefly flavoring matter and water."

Miss Cooper has another instructive table which calls attention to the fact that there is a difference in the number of persons that the commonly purchased units of vegetables will feed, so that we have to consider, if the family is large, whether one unit will be enough, and, if it is small, what we can do with what is left over. Suppose the family contains six persons, Miss Cooper estimates that

1 cabbage	is enough	for 8	persons
¼ pk. peas	" "	4–6	"
1 qt. string beans	" "	4	"
1 qt. tomatoes	" "	6	"
1 bunch asparagus	" "	4	"

In buying for a family of six, the cabbage, peas and tomatoes come out all right, but you would need to purchase two units of string beans or asparagus, which are not nourishing compared with their cost, and you will have just enough left over so that you hardly know how to use them. It may be worth while for you to work out your own table as to purchase suitable quantities of these perishable products.

Many of the breakfast foods are advertised as having an especially high nutritive value. If the statements often made in advertising these could be believed they would have some nutritive property not found in flours and meals ground from the same grains. For these claims there is no ground. The breakfast foods made from wheat, corn, oats, and other cereals contain no nutritive material other than that which is in the original grain, and which is also found in the ordinary flours and meals made from the same grains; and when the two kinds of food are equally well cooked there is no experimental evidence to show any difference in the thoroughness of digestibility. The retail prices of the breakfast foods are from two to five times as large as those of the ordinary products, like flour and meal. The advertisements, which often claim nutritive values that are fictitious, do not give any suggestion of the high price of the nutrients in the prepared foods as compared with that of the same amounts in the ordinary products, nor do purchasers generally realize how expensive these prepared foods are.

Errors in Food Economy

Scientific research, interpreting the observations of practical life, indicates that a fourfold mistake in food economy is very commonly made. First, the costlier kinds of food are used when the less expensive are just as nutritious and can be made nearly or quite as palatable. Secondly, the diet is likely to be one-sided, in that foods are used which furnish relatively too much of the fuel ingredients and too little of the flesh-forming materials. Thirdly, excessive quantities of food are used; part of the excess is eaten and often to the detriment of health; part is thrown away in the table and kitchen wastes. Finally, serious errors in cooking are committed.

For the well-to-do the worst injury is that to health; but people of small incomes suffer the additional disadvantage of the injury to purse. Indeed, to one who looks into the matter it is surprising to see how much people of limited incomes lose in these ways. It is the poor man's money that is most injudiciously spent in the market and the poor man's food that is most badly cooked at home.

Economy in Food Buying

A common mistake in purchasing food is in buying the more expensive kinds when cheaper ones would serve the purpose just as well. This is often done under the impression that there is some peculiar virtue in the costlier materials and that economy in the diet is detrimental to dignity and welfare. Unfortunately it is too often the case that those who are most extravagant in this respect are the ones who can least afford it. On the other hand, there is frequently a desire to economize, but a lack of knowledge of the best method of doing so. Many a housekeeper who sincerely tries to do the best for those to be provided for, but whose every cent must tell, buys sirloin steak at high cost, when it would be possible to get twice as much nourishment from a cheaper cut of meat, which, with a little skill in preparation and cooking, could be made into a tasty dish.

The difficulty is the ignorance of the simple principles of nutrition. That ignorance results in a great waste of money. Much of the price of the costlier foods is paid for appearance, flavor, or rarity, and often increase the cost of food out of all proportion to nutrients furnished. The plain, substantial, standard food materials, like the cheaper cuts of meat and fish, milk, flour, corn meal, oatmeal, beans, and potatoes, are as digestible and nutritious and as well fitted for the nourishment of people in good health as are any of the costlier materials.

We endeavor to make our diet suit our palate by paying high prices in the market rather than by skillful cooking and tasteful serving at home. The remedy for this evil will be found in an understanding of the elementary facts regarding food and nutrition, in a better knowledge of cooking and serving food, and in the acceptance of the doctrine that economy is not only respectable but honorable.

The soup kitchens which have been established in many cities, where meals planned according to accepted dietary standards are sold at very low and yet profitable rates, should furnish us with object lessons on the food-purchasing power of money.

Danger of a One-Sided Diet

Unless care is exercised in selecting food a diet may result which is one-sided or badly balanced—that is, one in which either protein or fuel ingredients are provided in excess. If a person consumes large amounts of meat and little vegetable food, the diet will be too rich in protein and may be harmful. On the other hand, if pastry, butter, and such foods are eaten in preference to a more varied diet, the food will furnish too much energy and too little building material.

Extreme illustrations of such a one-sided diet are found in the food of those persons who live largely on bread and tea, or others who live on corn meal, fat pork, and molasses. The "hog and hominy" diet supplies liberal quantities of energy, but is very deficient in protein, as illustrated by

the diet of negroes in the "black belt," with 62 grams of protein and 3,270 calories of energy per man per day.

Waste of Food

The use of excessive quantities of food, which is a common dietary error in this country, among not only the well-to-do but also those in moderate circumstances, entails a waste of food in at least three ways:

First.—More food is eaten than can be properly utilized by the body. This is not universally true, for there are some people who do not eat enough for healthful nourishment. But the eating habits of large numbers result not only in a loss of food material but in an increase in the labor of digestion, to say nothing of the injurious effects which overeating may have upon the bodily organs and functions and upon health in general. Probably the worst sufferers from this evil are well-to-do people of sedentary occupations—brain workers as distinguished from hand workers.

Second.—More food is served than can be eaten, and the excess is thrown away as table waste. Indeed, in many families in this country it is a matter of pride to furnish more food than is needed, a feeling which appears quite unreasonable to frugal Europeans, even those in equally comfortable circumstances.

Third.—The third form is that which occurs in the preparation of food materials for consumption. Thus, in removing the inedible material, as skin, seeds, etc., from fruits and vegetables, more or less of the edible portion is removed also, depending upon the care with which the work is done. The greatest loss from a pecuniary standpoint, however, is in the waste of animal foods in which the nutrients are in their costliest forms. The "trimmings" of meat which are left with the butcher or removed in the kitchen frequently contain one-eighth of the nutritive ingredients of the material paid for. Part of such waste is inevitable, but much of the valuable nutrients might be saved if the materials were used for making soup. The more economical cuts of meats are those in which there is less waste of this kind; in such cuts of meat as loin of beef, rit chops of lamb, and similar cuts, one-fifth the cost goes to pay for bone. Such cuts, therefore, should be avoided by those who wish to get the most actual nutriment for their money.

The worst sufferers from waste are doubtless the poor, but the large body of people of moderate means, the intelligent, and fairly well-to-do wage-workers, are guilty of errors in this regard. The common remark that "the average American family wastes as much food as a French family would live upon" is greatly exaggerated, but statistics show that there is considerable truth in it. In private families the waste has been found to range from practically none to as high as 8 or 10 per cent., while in boarding houses, even where economy was sought, it has reached 10, and in individual instances 20 per cent.; and in some public institutions where large numbers were fed it has been as high as 25 per cent. and even higher.

Errors in Cooking

It is commonly remarked by those who study the conditions of living of people of limited means in different parts of the country that for substantial improvement of their household economics two things are needed. They must be informed as to the high nutritive value of the cheaper foods as compared with the costlier kinds, and the methods of cooking must be improved. A great deal of fuel is wasted in the preparation of food, and even then a great deal of the food is badly cooked. To replace dear food badly cooked by cheaper food well cooked is important for both health and purse. To make the table more attractive will be an efficient means for making the home life more enjoyable.

Summary

Food has been briefly defined as "that which taken into the body, either builds tissue or yields energy." In its building function protein is the most important ingredient of food, as it is the basis of muscle, bone, and almost all the tissues and fluids of the body. Mineral matters are also needed in the body structure, though in smaller quantities. Protein, fats, and carbohydrates may any of them be burned in the body to produce heat or muscular energy, but for protein this is a less important and probably less usual function. The fats and carbohydrates, by being themselves used as fuel, leave the protein for its indispensable work of tissue forming.

Not only the amounts of nutritive ingredients which a food contains, but also the proportions which can be digested and utilized by the body, determine the real nutritive value of a food material. As a general rule, carbohydrates are more completely digested and hence more fully available for use in the body than protein and fats, and protein of animal foods, as meat, fish, milk, and eggs, is more digestible than that of vegetable foods. Fats are probably less digestible than most forms of protein and carbohydrates.

In ordinary mixed diet the chief sources of protein are meat, fish, and milk among animal foods, and the cereals and legumes among vege-

table foods. Beans, peas, and oatmeal are rich in protein and hence especially valuable food. About nine-tenths of the fat in the ordinary diet is obtained from the animal foods, while the vegetable foods furnish approximately nine-tenths of the carbohydrates.

Other things being equal, foods furnishing nutrients which can be most easily and completely utilized by the body are the most desirable, since they will not bring unnecessary exertion to the various organs. Many kinds of food which in their natural state hold the most valuable nutrients in such form that the digestive juices cannot easily work upon them are so changed by the heat of cooking that they become easily digestible. Thus the importance of proper cooking can hardly be overestimated. Things which please the palate stimulate the flow of the digestive juices; for this reason food should be made appetizing. An attractive diet pleases the æsthetic sense; hence refinement in food habits is as desirable as in other phases of our daily life. The sense of comfort and satisfaction produced by even the appearance of food well cooked and served is of indisputable value. Fortunately such satisfaction is within the reach of almost all.

Among people who have the benefits of modern comfort and culture the palate revolts against a very simple and unvaried diet, and for this reason the nutrients are usually supplied from a variety of articles—some of animal, some of vegetable origin. With a varied diet it is also easier to secure the proper proportions of protein to fats and carbohydrates.

As the habits and conditions of individuals differ, so, too, their needs for nourishment differ, and their food should be adapted to their particular requirements. It has been estimated that an average man at moderately active labor, like a carpenter or mason, should have about 115 grams or 0.25 pound of available protein and sufficient fuel ingredients in addition to make the fuel value of the whole diet 3,400 calories, while a man at sedentary employment would be well nourished with 92 grams or 0.20 pound of available protein and enough fats and carbohydrates in addition to yield 2,700 calories of energy. The demands are, however, variable, increasing or decreasing with increase or decrease of muscular work, or as other needs of the person change. Each person, too, should learn by experience what kinds of food yield him nourishment with the least discomfort, and should avoid those which do not "agree" with him.

A Standard for the Ideal Diet

Too much food is as bad as too little and occasions a waste of energy and strength in the body as well as a waste of nutritive material. While in the case of some foods as purchased, notably meats, some waste is unavoidable, the pecuniary loss can be diminished, both by buying those kinds in which there is the least waste, and by utilizing more carefully than is ordinarily done portions of what is usually classed as refuse. Much of the waste may be avoided by careful planning so as to provide a comfortable and appetizing meal in sufficient amount, but without excess. If strict economy is necessary, the dearer cuts of meat and the more expensive fruits and vegetables should be avoided. With reasonable care in cooking and serving, a pleasing and varied diet can be furnished at moderate cost. It should not be forgotten that the real cheapness or dearness of a food material depends not only on its market price, but also on the cost of its digestible nutrients. It should always be remembered that "the ideal diet is that combination of foods which, while imposing the least burden on the body, supplies it with exactly sufficient material to meet its wants," and that any disregard of such a standard must prevent the best development of our powers.

THE VALUE OF FRUIT JUICES IN FEEDING

BY

THE EDITORIAL BOARD

Dr. George Dow Scott, one of New York's well-known specialists on diseases of children, has been devoting especial study to the fruit juices; as a result he commends them highly for use in the modern dietary, especially of infants and young children.

Continuing, Dr. Scott says: "Appreciating the value of fruit juices in infant feeding and in infant life, we are astonished at the unwise use of drugs and medicines during the first twelve months after birth. Castor oil, calomel and other medicines should be given at this period for a very short time and only in very small doses. Infants at times do need a laxative other than

the milk fat. (The normal breast milk contains fat proteid, and carbohydrate plus vitality sufficient for the infant.) A normal mother's milk is ideal for her own child. This is not the case with either poor mother's milk or artificial modifications of milk. In fruit juices we have an ideal laxative, as well as an ideal antiscorbutic (scurvy cure).

Fruit Juices for Convalescents

"With patients suffering and convalescing from pneumonia, intestinal diseases, influenza, measles, whooping-cough, scarlet fever, anemia, simple jaundice, etc., fruit juices are invaluable, as they produce better digestion of foods; they cause a more healthy action of the kidneys, and they cleanse the intestinal tract. For the same reason they are most useful in peritonitis, appendicitis, bronchitis, diphtheria, typhoid fever, self-poisoning from food, etc. Primarily they show a decided action in flushing the kidneys and bladder, as well as in possibly diluting the poisons which pass out by way of the kidneys. This is the reason that fruit juices are indicated in the treatment of arteriosclerosis (hardening of the arteries), and the value of this direct action can be readily seen in acute Bright's disease, inflammation of the bladder, and temporary presence of albumen in the urine.

"It has been found by investigators in this country that certain fruit juices, notably those of the pineapple, grape, apple, orange, peach, and apricot, undoubtedly purify the intestinal canal and render it an unfertile field for the propagation of bacteria.

Chemical Composition of Fresh Fruit

"The general composition of fresh fruit is as follows:

"Water, 85 to 90 per cent.

"Proteids, 5 per cent. (Proteids are the tissue-forming materials of milk, meat, eggs, certain vegetables, etc.)

"Fat, 0.5 per cent.

"Carbohydrates, 5½ to 10½ per cent. (Starches and sugars.)

"Cellulose, 2½ per cent. (Explained below.)

"Mineral matters, 0.5 per cent.

"Of the proteids 80 per cent. is absorbed, of the fat 90 per cent., and of the carbohydrates 95 per cent.

"Cellulose is a tough, fiberlike substance, forming the framework or skeleton of plants, and is the most abundant material in the vegetable kingdom except water. It is insoluble in the stomach and intestines. Thus this 'pulpy' substance is often a causative factor in indigestion and in irritation of the alimentary canal. It is obvious that pure fruit juice has all the advantages of fruit without this sometimes harmful cellulose.

"Cooking renders most fruits more digestible by softening their cellulose, and it also converts the gumlike substance into jelly.

"In a series of experiments upon the digestive qualities of certain fruits, Professor Sheridan found that the fig, pineapple, grape, melon, banana, apple, orange, also lettuce and dandelion have in their juices substances which will aid greatly in the digestion of the proteids (main constituents in meat, milk, eggs, certain vegetables, etc.).

"It has been found that cooking changes the chemical composition of fruit juice to an extremely slight degree, the loss being a few volatile constituents.

Medicinal Value of Pineapple

"Pineapple is a great quencher of thirst, as well as being very beneficial medicinally. In the thirst of heat prostration, or nervous prostration, and in that of fever, it is very valuable.

"In fever convalescence pineapple juice is very helpful, being readily retained by delicate stomachs. Three or four ounces at a time is the usual quantity given. It should be chilled and poured over cracked ice, and served in a thin glass to make it more attractive.

"In the various forms of sore throat, and at the onset of a common 'cold,' a glass of hot pineapple juice given at intervals of two or three hours, sipped slowly, gives pronounced relief. Prepare it by adding to two-thirds of pineapple juice one-third of boiling water and a little sugar. It has been found that pineapple juice contains digestive properties of a very high value. Taken with meals or immediately after, it will cure several forms of indigestion.

"In some varieties of indigestion a glass of pineapple juice and boiling water in equal proportions, with no sugar, taken regularly each morning, on arising, will afford permanent relief.

Other Fruit Juices

"The grape cure as practiced in France, Switzerland and other European countries, has been famous for many years, and its beneficial results have long been known to laymen.

"The advantages of drinking fruit juices rather than tea, coffee and milk are very apparent. Tea and coffee, with their theine and caffeine, are very injurious, while milk, with its well-recognized danger of typhoid and tuberculosis contamination, unless most carefully selected, is dangerous indeed.

"It is much better and more economical to have the fruit juice in the home and to serve it with pure water than to get it at the soda fountain or restaurants, where it is served with carbonated water of doubtful purity. Keep it in the ice-box and take care not to drink any that has been exposed for too long a time to the air."

FOOD FOR SCHOOL BOYS AND GIRLS

BY

MARY SWARTZ ROSE

CARE of the diet should not cease with the first four or five years of life. The small boys and girls trooping off to school every morning have not progressed so very far along the path of growth. They have started on a climb lasting for nearly a quarter of a century, and while it is true that they triple their initial weight in a single year at the beginning of their career, it is also true that they must increase it fifteen or sixteen times more before they attain adult stature. An older child does not need to be weighed so often as a baby, but care should be taken to be sure that he is making normal gains.

Requisites for the Growth of Children

While requisites for good growth are plenty of fresh air and sleep, hygienic clothing, and freedom from worry and excessive toil, the most important single factor is food. Out of ordinary food materials all the substances of the body are built, and an inadequate supply means uncompleted growth. Observations on thousands of school children show the retarding effect of poor feeding on weight. Experiments in feeding groups of these undernourished children have resulted in a pronounced gain, one group of 40 children having averaged a pound and a half of increase per capita in a four-week period (in which about three-fourths of the whole day's food supply was carefully supervised), while before the special feeding they had been gaining only about a quarter of a pound each per month.

Kind and Amount of Food

Both kind and amount of food are important. The body is from birth a ceaselessly working machine, maintaining itself through such internal work as respiration and circulation and digestion, and more or less continuously engaged in muscular activity. Till the need for energy for these different kinds of activity is met, there cannot be available much material to build up into new body substance. In addition to this supply of food for fuel (which may serve in part also as food for growth), certain other substances are required specifically for body-building. It is possible to have a diet ample in fuel but so deficient in growth-inducing substances, that the same body weight is maintained over periods in which the child should normally have more than doubled its weight, appearing in other respects perfectly normal. Besides failure to make proper gains in weight, other common signs of undernourishment are weak bones, flabby muscles, and lack of plenty of good red blood.

Food Requirements according to Age

The fuel requirements of the body and the fuel values of food to satisfy these requirements are measured in terms of a standard unit—the calory. The requirements of children vary with their age and body weight, being highest per pound in the youngest children, as is shown in the following table:

AGE, YEARS	CALORIES PER POUND	CALORIES PER DAY
1–2	45–40	900–1200
2–5	40–35	1200–1500
6–9	35–30	1400–2000
10–12	30–25	1800–2200
14–17	25–20	2300–3000
18–25	not less than 18	2300–3400

These estimates are for moderate amounts of activity. Children who spend the greater part of their time out-of-doors, as, for example, Boy Scouts in active camp-life, will doubtless consume somewhat more than the average, and due allowance should be made for such demands.

Having determined the energy requirements of any particular person whom we have to feed, we must turn to foods and see how this supply of energy is to be obtained. Since several hundred calories are required each day, it is most convenient to think of our foods in 100-calory portions. Some examples of the amount of food required for such portions are given on the following page.

Approximate Amounts of Food to Yield 100 Calories

Cooked or flaked breakfast foods	¾-1 cup
Milk	3/5 cup, whole; 1⅕ cup, skimmed
Cream	⅛ cup, thin; 1½ tablespoons, very thick
Butter, olive oil, or any other kind of fat	1 tablespoon
Bread	1 slice 3″ x 3″ x 1″
Fresh fruit	1 large orange or apple; 1 medium banana or bunch of grapes; 2 large peaches or pears
Dried fruit	4 or 5 prunes or dates; 2 dozen raisins; 1 large fig
Eggs	1 exceptionally large; 1¼ medium
Meat (beef, lamb, mutton, veal, chicken)	About 2 ounces of cooked lean meat
Bacon (cooked crisp)	About 1 ounce (4 small, thin slices)
Potatoes	1 medium
Sugar	1 tablespoon granulated; 3½ "full-size" lumps
Cocoa (made with milk)	½ cup
Cream of bean soup	½ cup
Macaroni and cheese	½ cup
Rice pudding	⅓ cup
Ice cream (made with cream)	¼ cup
Milk sherbet	1/3 cup
Sponge cake	1 large individual cake
Nuts (shelled almonds, peanuts, pecans)	About ½ ounce
Sweet chocolate	About ¼ ounce

Building materials of many kinds are needed, the most important elements being nitrogen, phosphorus, iron, and calcium. Nitrogen is obtained exclusively from proteins, a kind of foodstuff found in large amounts in milk, eggs, meat, fish, dried peas, beans, and lentils. Milk is rich in all kinds of building material but iron, and contains these substances for growth in the most readily used form. It should constitute the chief part of the diet throughout childhood; and in the later years of growth should still be freely supplied. While whole milk is richer in fuel than skim milk, the latter contains nearly all of the nitrogen, phosphorus, and calcium of the whole milk, and is still very valuable food. Egg yolks are rich in the iron which milk lacks, and also in nitrogen and phosphorus. Green vegetables, dried peas and beans, cereals (especially from the whole grain), are very valuable for their building materials, and some of these foods should be included in every day's menu.

The Morning Meal

Not only are kind and amount of food to be considered, but the way in which food is prepared and served. The first consideration in the school child's program is his breakfast. He should never be permitted to go off without it, for he has not reserves in his body to tide him over long periods without food, as an adult has. No breakfast, or a very unsuitable one, is frequently cited as a cause of undernutrition. The precise form of this meal will depend somewhat upon the age of the child. For those from five to eight years of age it may consist of the following:

1. *A mild fruit:* as orange, fresh ripe or baked apple, baked banana, stewed prunes.

2. *A well-cooked cereal:* oatmeal having the preference; wheatena, rolled wheat, hominy grits introduced at intervals for variety; occasionally a ready-to-eat cereal, especially in the summer time. Any of these should be served with a liberal supply of milk but not with sugar, as when it is taken thus children are less likely to tire of it.

3. *Some form of dry, rather hard bread:* as toast, zwieback, whole-wheat crackers, very crusty rolls baked a second time when at least 24 hours old. These help to develop chewing habits and also to bring blood and exercise to the jaws and lay the foundations for strong teeth.

4. *Milk to drink:* this should never be very cold, and may very well be hot, especially on cold mornings. It may be flavored with a little cocoa or cereal coffee if by such means the milk is taken more freely.

If the breakfast must be simpler than this, it will be best to give the cereal and milk and trust to getting in the other foods later in the day. For the older children, there may be more variety in fruit, the preference being given to that which is only mildly acid. Fresh fruits in season, and many kinds of dried fruits, may be used. To increase the amount of fuel, an egg or some bacon may well be added. The main changes in the meal will be in amount rather than kind. No hot breads or fried foods should be included before the age of fourteen and after that only at long intervals and in small amounts, so that they do not constitute the chief part of the meal.

A regular schedule for meals is very important as an aid to digestion. The alimentary tract may be trained to respond to the stimulus of food taken at a definite time much better than when the food is taken haphazard. The breakfast hour should be early enough to prevent any one fretting or eating hastily through fear of being late to school. Serenity promotes good nutrition; excessive emotion of any kind retards the digestive processes and sometimes actually produces acute indigestion. Whimpering over food should never be permitted; eating should be stopped till calmness is restored.

The Noon Meal

Dinner should be served at noon rather than at night for children under twelve, so that early slumber, also imperative for good development—especially of the nervous system—shall not be interfered with. Dinner for children from five

to eight years of age will serve with little modification as luncheon or dinner for the older ones. It may consist of:

1. *A soup:* made with milk and vegetable juice or pulp; or a mild broth used as a medium for carrying vegetables or cereals.

2. *An egg:* dropped, poached, made into an omelet, or scrambled—never fried. For variety, a little bacon, a bean purée, creamed macaroni, or baked rice with a little cheese can be used.

3. *Stale bread or crackers* with butter.

4. *A green vegetable:* of mild flavor and delicate texture, mashed or finely chopped for the youngest. Spinach (which is especially rich in iron), carrots, peas, and asparagus tips are good examples of the kinds to use. Since it is not well for children under eight or nine years of age to have meat, much of the variety in the diet, to which they need to be trained for their future good, is gotten through the careful choice and method of serving of vegetables; and a cultivation of a taste for them, not only as sources of building material in childhood but as a means of keeping the body in good running order in later life, is a duty of those who have such feeding in charge.

5. *A very simple dessert:* as junket, baked custard, blanc-mange, rice, or other cereal pudding. If sweets are further desired they should be included in the dessert. A little candy (one or two pieces) may be taken at the end of a meal without harm, but should never be allowed at any other time.

6. *Milk to drink:* this may be omitted if a milk soup is served. Children of poor appetites cannot be expected to take a great deal of fluid food. For them, milk may be cooked into many dishes.

For the older children, who have dinner at night, the luncheon should be substantial, and the above plan with more choice of hot dishes will serve very well. When the noon meal cannot be taken at home, the problem of a suitable school lunch must be met. If the lunch-box is carried from home, the advantage of warm food in promoting easy digestion and leaving the mind freer for action in the afternoon is lost; there is also more danger of the food being bolted than in a regular meal at a table with others. Consequently special care needs to be taken that the foods are suitable in kind and amount, and appetizing when the box is opened.

Menu for the School Lunch-Box

1. *Sandwiches:* which form the best staple, made of stale bread and filled with finely-chopped boiled eggs well but mildly seasoned; a nut paste, as peanut-butter softened with milk or cream; a dried fruit paste, made of chopped dates or figs. These kinds are all suitable for the younger children; for the older ones, chopped meat, cheese, jellies, and jams are also desirable.

2. *Fruit:* which is appetizing and carries well. The varieties mentioned for breakfast are suitable, also cooked fruit if it can be carried, as apple-sauce, stewed raisins, pears, etc. Tomatoes may take the place of other fruit when liked.

3. *A sweet:* as baked custard, plain cookies, sponge cake.

4. *Milk or fruit juice to drink* if it can be carried. For the older children, stuffed eggs mildly seasoned, nuts, sweet chocolate, baked beans, crusty rolls filled with potato or other simple salad, help to give variety.

The School Luncheon and Its Advantages

At best the lunch-box is but a makeshift. Eating is a social as well as a physiological process, and we are beginning to recognize in this country the advantages of a regular school luncheon, through which the children may get wholesome food and eat it under favorable conditions. Even a single hot dish provided at school to supplement whatever is brought from home, brings the pupils together socially and shows quick returns in brighter and healthier pupils, as rural school-teachers who have given the plan a trial enthusiastically testify. In the city the school meal not only protects the child of poverty, for whom no provision at home is made at noon, from going too long a time without food, but also guards the child who has money to buy food from the temptations of small stores and push-carts which offer unsuitable and unsanitary viands. The school luncheon may be a potent influence, too, in educating the child's taste for the right kind of food.

The school luncheon must be simple, easily served and economical. In the elementary school it may consist of a choice of two hot dishes with some form of bread or cracker, and a choice of about two sweet dishes. A week's menu as actually served by the School Lunch Committee of the Home and School League in Philadelphia is given below by way of illustration.

Weekly Menu in School with Penny Lunches and Five-Cent Noon Dinner

Monday:	(1) Baked beans and roll, 5c (2) Cocoa or milk, 2c; crackers or ice cream, 1c
Tuesday:	(1) Vegetable soup and roll, 5c (2) Same choice as Monday
Wednesday:	(1) Creamed beef on toast and roll, 5c (2) See Monday. Dates, 1c
Thursday:	(1) Macaroni with tomato sauce and roll, 5c (2) See Monday. Jam sandwich, 1c
Friday:	(1) Creamed salmon and roll, 5c (2) See Monday

(1) Dinner. (2) Penny Portion.

In the high school the luncheon may offer more variety, but the emphasis should still be on simple, nourishing foods. The daily list may well include:

1. Soup—as tomato, green pea, split pea, white and black bean.
2. Two or three hot dishes, as spaghetti with tomato sauce, mashed potatoes with green peas, baked beans, corn pudding, a stew or hot roast beef sandwich.
3. Salads—as potato, egg, fruit, or green vegetable.
4. Sandwiches, one or two varieties each day.
5. Fruit—as apples, bananas, stewed fruits of various kinds.
6. Milk and cocoa.
7. Plain cake or sweet wafers offered only in combination with milk or other plain food.
8. Ice cream, charlotte russe, simple baked pudding, sweet chocolate.

The Evening Meal

The evening meal should be very simple indeed for children up to eight or nine years of age, and furnished not later than six o'clock. Bread and milk, milk toast, creamy egg on toast, or thick soup with bread, and mild stewed fruit, accompanied by a plain cooky or cake or by some cereal pudding, will make an adequate meal. For the older children, the evening dinner should be about as substantial as the noon meal, including a small serving of meat and a simple salad of fresh fruit or vegetables, preferably with French dressing. Stewed fruit may be substituted for the salad when desired. There should be plenty of bread and butter or a good butter substitute. A variety of breadstuffs will greatly increase the attractiveness of the modest menus of the period of growth. There may be changes in shape, as in breadsticks and twists; of flavoring, as in sprinkling cinnamon and sugar on the top of the loaf, or in baking nuts, dates, or raisins into it; and in both flavor and color by the use of different kinds of flours. Butter is a valuable fuel food, but if milk with its natural fat is used freely, cheaper forms of fat may take the place of butter to a large extent.

Foods Which Are to Be Avoided

Pork and other meats very rich in fat, pastry, rich sauces, meat salads with mayonnaise dressing, and fried foods should never appear in the dietary of young children, and almost never in the evening meal even of the high-school youth. Only a free out-of-door life can tone up the system so as to enable it to dispose of such foods without harm.

Food between Meals

Habits of regularity are essential to good nutrition. Not only should meals be taken at the same time each day, but they should be of about the same relative weight from day to day. If dinner is eaten at night during the week, it should not be shifted to noon on Sundays and holidays without taking into consideration possible disturbances in the even course of digestion. Eating between meals is to be absolutely discountenanced. It would be a good thing if all food could be locked up in the intervals so that no one would be tempted. If children are regularly hungry between stated meals, something should be provided for them which does not tempt to eating merely for the sake of the flavor, and which is naturally easy to digest. Milk, dry bread, crackers, and ready-to-eat breakfast foods answer the purpose admirably. Mild fresh fruits are allowable if children are well and strong. By limiting this extra meal to one or two simple foods, it will be naturally discontinued when no positive need for it exists, while no child who really needs food will have to go hungry.

Special Attention Should Be Paid to the Diet in Adolescence

During the period of adolescence, when development is again in some respects very rapid, special attention should be paid to the diet. If careful training has preceded, girls are perhaps not so likely to develop a desire to avoid all plain food and live on sweets, but they are, nevertheless, very likely to pass by the green vegetables and cereals which bear the iron especially needed by them for the maintenance of a full supply of good blood through this period. Such foods should be prepared with the utmost care, and supplemented when cost permits by more liberal allowances of fruit, which serves the same purpose and is usually better liked. Milk can be concealed in many dishes, and meat in moderate amounts (2 to 4 ounces a day) may be given regularly, especially if it is difficult to get milk consumed. Boys are not usually so whimsical as girls, but they, too, exhibit vagaries of appetite which need to be taken into account. They have usually many pounds of flesh to lay on their long bones before they attain adult stature, and need liberal feeding. They not only need more food than their fathers, in proportion to their weight, but they are also much more active physically and expend a large amount of energy on this account, so that they usually need more food, not only relatively but absolutely. To get this without too great bulk, fat may be used liberally in the form

of butter and cream, olive oil, oleomargarine, and bacon. Cheese is a concentrated source of both fat and protein, and if mixed into a cream sauce or a dish of macaroni, is readily digested. "Poor man's pudding" and similar dishes afford a way of giving much milk with moderate bulk, while nuts and dried fruits, such as dates, figs, and raisins, are also concentrated sources of nourishment which may be used to advantage. A day's food scheme suitable as a basis for planning the meals of young people is given below. It will furnish adequate building material as well as fuel.

A Day's Food Plan. Age 14 to 18 Years

BREAKFAST		CALORIES
500–800 calories	Fruit	50–100
	Cereal	100–150
	Milk	100–200
	Bread	100–200
	Butter	50–100
LUNCHEON		
600–1200 calories	Macaroni and cheese	
	or	
	Hot roast beef sandwich	200–300
	or	
	Bean soup and crackers	
	Cocoa *or* milk	100–150
	Bread	100–300
	Butter	100–200
	Baked custard	
	or	
	Rice pudding	150–200
	or	
	Baked apple	
DINNER		
800–1400 calories	Meat	
	or	
	Bean or lentil loaf and potatoes	200–300
	or	
	Scalloped eggs	
	Green vegetable, cooked	25–100
	Fresh fruit *or* vegetable salad	100–150
	Bread	100–300
	Butter	100–300
	Ice cream	
	or	
	Tapioca cream	150–200
	or	
	Charlotte russe	
	Milk *or* cereal coffee	100–200
	Total	1800–3200

Most aversions to food are formed during or before the period of adolescence. These are deplorable socially and economically, and may be the cause of a badly-selected diet. They arise through unpleasant associations, as sickness or accidents; through imitation of others, especially admired adults; through unpleasant suggestions made by others; or through idiosyncrasies of taste. An enthusiasm for nourishing food needs to be cultivated among children by precept and example, and worthy foods should be kept from falling into disrepute by every legitimate means. The cultivation of a rational appetite will help immensely in laying the foundations of health for later years. Many of the results of dietetic indiscretions are not apparent immediately, and their seriousness is likely to be underestimated. Fuller physical stature, greater resistance to disease, freedom from fatigue, and increased mental alertness are hard to measure in concrete terms. But psychologists and physiologists are perfecting tests, and these, even in their present crude state, give abundant evidence of the value of food in promoting health. And while we are right in insisting upon economy in the use of food materials, it must be a rational economy that avoids waste but recognizes the necessity of an ample food supply, rich in building material, not only through elementary school and high school, but even through college. Many a young man and woman has by subsistence on meager and unsuitable food during the college years, paid the penalty in lowered physical resistance. If rigid economy must be practiced, let it be as far as possible on the seasoned adult who can best bear it, and not upon developing young people, whose right it is not only to be well-born but also well-reared.

THE DIET OF YOUTH

BY

DR. ROBERT HUTCHISON

YOUTH is a time of growth, and this means that, throughout this period of life, the body has not merely to be kept in repair, but increased in bulk day by day. It follows from this that the diet of youth must contain a relatively large proportion of building material, *i.e.*, protein. But youth is also an energetic time, during which the muscles are, or ought to be, very active in games and play, and this involves the necessity as well for a large supply of "energy material," *i.e.*, fats and carbohydrates. Thus we reach the conclusion that the diet of youth must be *abundant*. Seeing also that a large amount of protein is required, and that protein is contained chiefly in the animal foods, it follows that a mixed diet is almost a necessity at this period of life. I do not say that it is impossible to rear healthy boys and girls on a purely vegetarian diet; but it is very difficult to do so without the consumption of a large bulk of nutriment, owing to the

comparative poverty of most vegetable foods in protein, and a bulky diet is likely to over-tax the digestive powers. The chief practical objection to the use of a large proportion of animal food is its cost, but this can be met, where economy is an object, by selecting the cheaper varieties, *e.g.*, the less expensive cuts of meats, the cheaper sorts of fish; and by the free use of skim milk (which is rich in protein) and cheese. I am aware that cheese is commonly regarded as an indigestible food, but this objection only applies when it is eaten raw. There are few boys and girls who are not able to digest cheese when it is cooked and eaten with some farinaceous food (as in many of the Italian dishes); and cheese certainly ought to enter more largely into the diet of youth than it does at present. If, in addition to these less expensive animal foods, the vegetable foods that are richest in protein, such as oatmeal and lentils, are freely represented in the diet, there will be no fear of a shortage of building material.

Eating for Energy

The supply of energy-material presents less difficulty. Starch is contained abundantly in many cheap foods (bread, rice, potatoes, etc.), while sugar is a compact and inexpensive form of pure carbohydrate and one that growing children do not need to be persuaded to take largely. The danger, indeed, is that too high a proportion of the energy-material of the diet may be supplied in the form of carbohydrates, and too little in that of fat. Yet both are necessary for health, for if either fat or carbohydrate is supplied in relative excess, the diet becomes "ill-balanced" and health and digestion suffer. This is the prevailing fault of the diet of youth among the poorer classes; it contains too little protein and fat and a relative excess of starch. The excuse for this state of things is that fat, like protein, is likely to be expensive; but it should be remembered that although bacon and butter-fat may be expensive, dripping and margarine are just as nutritious and cost much less; and in households in which economy is of importance, the larger use of these forms of fat should be encouraged as much as possible. To sum up, the diet of youth should be an abundant, mixed, and well-balanced diet in which protein, carbohydrates, and fats are all freely represented.

The Diet of Youth Should Be Plain but Abundant

As has already been pointed out, the diet of youth, owing to the demands for both growth and energy, must be an abundant one; and it has been calculated by physiologists that at the age of twelve a boy requires 70 per cent., at thirteen to fourteen, 80 per cent., and at fifteen to sixteen, 90 per cent., of the amount of food needed by a full-grown man doing moderate work. Girls of corresponding age require rather less. In daily life the only safe guide to the amount of food required is the appetite. It goes without saying that the appetite must be a healthy one, and not debauched by the use of highly-flavored foods or by the taking of sweets, etc., between meals. It must also be presupposed that plenty of exercise in the open air is being taken. If these conditions be fulfilled, there is no danger in allowing the growing youth to eat his fill of plain, wholesome food. The criterion of sufficient feeding is the body weight. Failure to gain weight steadily throughout the period of growth should always lead to a revision of the diet scale, and, if this appear insufficient, the advice of the doctor should at once be sought.

The Use of Beverages by Adolescents

Youth is a thirsty time, and care should be taken to see that plenty of liquid is allowed; the actual amount required must be determined by the degree of thirst, but as a rule one may reckon that not less than two pints of liquid will be necessary. Plenty of pure water is essential for health, and girls in particular are likely to drink too little of it. If the source be doubtful, the water should be boiled. Very hard water should be treated similarly. Water should form the sole beverage at dinner, although lemonade or ginger-ale may sometimes be allowed as a "treat." Alcohol should never be given to young people.

Tea, Coffee, and Cocoa

It is necessary to utter a word of warning against the abuse of tea, which is a potent cause of indigestion at this period as in later life. Coffee also should be taken in strict moderation, as it is apt to be exciting to the nervous system, and should be avoided in the latter part of the day, owing to its tendency to produce sleeplessness. Cocoa is a wholesome and nourishing beverage, if taken with plenty of milk, but some find it indigestible, and it should therefore never be used very strong.

The Arrangement and Composition of Meals

As a rule, three full meals a day are sufficient —breakfast, dinner, and early supper. These should be separated by intervals of four-and-a-half or five hours. No work, bodily or mental, should be done on an empty stomach nor immediately after a meal. It is very important that

the food should be well cooked, served in a clean and attractive way, and sufficiently varied. On the other hand, the plainer it is the better; all spices, sauces, and rich flavorings being carefully avoided. Warm food is more easily digested than cold, and dinner should always be a hot meal. The importance of thorough chewing should be constantly impressed on both boys and girls, "bolting" of the food being a fertile source of indigestion.

As regards the constituents of the different meals, a word is necessary. Breakfast and the midday meal (dinner) should be the most solid, and should contain the most "building-material," which practically means some form of animal food—eggs, fish, bacon, etc., at breakfast, and a joint at dinner. A cereal of some kind is a useful addition to breakfast, as it is rich in building material, but is not alone sufficient for a meal, although it forms a good "foundation." Some form of green vegetable should always be given at dinner for the sake of the valuable mineral salts, and stewed fruit should usually form part of the "sweet" course on account of its action on the bowels. If meat be not easily obtainable, a dish containing cheese, lentils or beans may be given as a substitute, or one of these may be used in place of meat, as a change, especially in hot weather.

"Fancies" in Foods

Sweets should be allowed after dinner only; and, where funds permit, some form of fresh fruit should be taken after either dinner or breakfast. No food, except perhaps a glass of milk or a cup of cocoa, should be taken after the evening meal, for in most cases the more nearly empty the stomach is on going to bed, the better; as otherwise sleep is likely to be disturbed and the proper amount of complete rest not secured.

Not uncommonly one is met with "fancies" in the taste for food, the boy or girl exhibiting a marked repugnance to things that the majority eat without objection, and such peculiarities are rather difficult to deal with. The attempt to educate the digestion should always be persevered in, not only in the interests of health but because of the great inconvenience in after-life of being unable to take foods that are in common use by others.

MENU-MAKING AND THE NUTRITIVE VALUE OF MEALS

BY

EMMA S. JACOBS

THE menus given below furnish some idea of proper combinations of the various foodstuffs and the amount of raw material needed for the individual doing moderate work. If every housekeeper will keep accurate record of the food purchased, and the number of meals served from it, also of the weight of that which is thrown away, she will soon have sufficient data to enable her to estimate closely the amount of food to be purchased for her family. This information, the study of bulletins on food,[1] and close watching of the market will help her to run her end of the business of homemaking in a scientific and economical way.

The menus show not only the weight of the individual portion but also the amount of protein and of energy the portions supply. The values for weight, for protein, and for energy, of the individual dishes, added together, give the totals for a meal, and the totals for the three meals added together give the totals for a day's supply of food.

To help the housekeeper make other menus showing weight of portions and their protein and energy content, a table is given following the menus which shows the weight, and the protein and energy content, of individual portions of a considerable number of foods or foodstuffs, particularly those commonly used.

Menus: Weight of Foods per Person and Their Protein and Energy Content

	WEIGHT *ounces*	PROTEIN *ounces*	ENERGY *calories*
Breakfast			
One peach	2	0.008	27
Cream of wheat	1	0.110	105
with cream	2	0.074	46
Soft cooked egg	2	0.268	96
Coffee with sugar and cream	1		57
Rolls with butter	3½	0.273	322
Total	11½	0.733	653

[1] U. S. Dept. Agr., Office Expt. Sta. Bul. 28, "The Chemical Composition of American Food Materials." U. S. Dept. Agr., Office Expt. Stas., Circ. 46, "The Functions and Uses of Food."

Menus: Weight of Foods per Person and Their Protein and Energy Content—Continued

	WEIGHT ounces	PROTEIN ounces	ENERGY calories
Lunch			
Cream soup of green peas.	5	0.126	113
Bread and butter	4	0.273	434
Blueberries with sugar and milk	5	0.074	146
Sugar cookies	1	0.07	120
Total	15	0.543	813
Dinner			
Lamb broth	4		25
Baked bluefish	8	0.088	86
Mashed potatoes	4	0.088	194
Buttered beets	3	0.096	180
Tomato and cucumber salad	4		296
Apple tapioca	3	0.096	269
Pudding with cream	2¼	0.074	46
Bread and butter	4	0.273	434
Coffee	1		57
Total	33¼	0.715	1587
Total per day	59¼	1.991	3053
Breakfast			
Cracked wheat	1	0.111	105
with cream	2	0.074	46
Breakfast bacon	1	0.100	65
Creamed potatoes	3	0.092	128
Corn muffins and butter	5	0.250	414
Total	12	0.627	758
Lunch			
Split pea soup	3	0.258	180
Bread and butter	3½	0.273	322
Cream rice pudding	4½	0.167	270
Total	11	0.698	772
Dinner			
Tomato bouillon	6		30
Planked fish	8	0.088	86
Baked potatoes	4	0.088	96
Stewed corn	2	0.056	57
Spinach	2	0.042	32
Bread and butter	4	0.273	434
Apricot short cake	2	0.176	267
Total	28	0.723	1002
Total per day	51	2.048	2532
Breakfast			
Raspberries	3	0.020	138
Plain omelet	2	0.268	96
Baked potato	4	0.088	96
Rolls and butter	3	0.170	387
Coffee	1		57
Total	13	0.546	774
Dinner			
Clam broth	6		30
Baked chicken	4	0.772	260
Boiled rice	2	0.160	324
String beans	2	0.042	12
Swiss chard	3	0.042	32
Cottage pudding	4	0.250	761
Bread and butter	3½	0.273	322
Coffee	1		57
Total	25½	1.539	1798
Supper			
Chartreuse of beef	5	0.310	176
Bread and butter	3½	0.273	322
Baked apple and raisins	3	0.021	134
Sponge cake	2	0.160	106
Total	13½	0.764	738
Total per day	52	2.849	3310

Weight, Protein, and Energy of Individual Portions of Some of the Common Foods

	WEIGHT ounces	PROTEIN ounces	ENERGY calories
2 level tablespoonfuls coffee for one cup	½		
1 level tablespoonful sugar	½		57
1 level tablespoonful butter = 1 inch square by ½ inch thick.	½		112
2 level tablespoonfuls flour (sifted)	½	0.005	52
1 tablespoonful olive oil	1/3		85
1 level tablespoonful cocoa for one cup	½	0.054	38
2 level tablespoonfuls fine tapioca	½	0.002	51
¼ cupful corn meal	2	0.168	194
¼ cupful cream of wheat	2	0.220	210
¼ cupful rolled oats	1 1/6	0.195	135
¼ cupful rice	2	0.160	324
¼ cupful canned beans	2	0.022	32
¼ cupful canned peas	2	0.072	32
¼ cupful canned tomatoes (home product)	1	0.012	65
¼ cupful coarse hominy	2	0.116	206
¼ cupful cottage cheese	2½	0.522	80
¼ cupful top milk for cereal	2¼	0.074	46
⅛ cupful cream sauce for vegetables	1 7/16	0.026	34
¼ cupful cream sauce for escalloped dishes	2⅛	0.052	68
¼ cupful cream sauce, plus ¼ cupful milk, for cream soups	5⅛	0.126	113
3 slices bread, ½ in. thick, 4 in. square	3	0.273	210
8 dates	2	0.042	202
6 prunes	2	0.042	175
1 apple	2	0.008	27
dried apples, peaches, pears, apricots	2	0.094	161
2 canned peaches, pears	5	0.035	69
1 egg (medium)	2	0.268	96
1 potato (medium)	4	0.088	96
6 lettuce leaves	1½	0.018	9
trimmed kale, spinach, other greens	3	0.042	32
2 thin strips breakfast bacon (if melted fat from it is also used)	1	0.155	130
macaroni	1	0.134	104
cheese (American)	½	0.144	64
1 strip ham, 1½ inches wide by 3 inches long	2	0.326	242
2 slices roast lamb or beef	4	0.768	264
raisins	1	0.026	100
1 banana (without skin)	5	0.065	144
8 English walnuts (shelled)	1	0.166	205
16 almonds (shelled)	1	0.210	189
2 loin chops (trimmed)	4	0.640	424
3 sausage cakes	3	0.390	398
2 potato croquettes	3	0.061	56
2 onions	6	0.096	84

Composition and Cost of Some Common Food Materials

The following table shows the general percentage composition and cost of some of the staple articles of food. The maximum and minimum figures are given in order that the range found under usual conditions may be seen. The prices given represent actual conditions noted at the time the paper was prepared. Such a table will help the housewife to compute the protein and energy content of individual portions of a number of foods (raw). The portion to be served should be weighed before cooking, and the protein it supplies calculated from the weight of the portion and the percentage of protein in the foodstuff as shown by the table. The energy should be calculated from the weight of the raw material and the

energy value for a pound of such material as shown by the table. The calculations involved are simple.

The menus given are intended simply to illustrate the method of calculation and not as guides to be followed in detail in the planning of the daily diet. The quantities of protein and energy supplied are rather low and correspond to the minimum, rather than the average, for a man who is doing moderate muscular work. If a housekeeper planning meals for herself, her husband and three children should select these menus, she might well consider the children as adults, and take five times the quantities named, instead of four, as she would if allowances were made for the fact that a woman and a child eat on an average somewhat less than a man. The menus would then give an opportunity for the second helpings which the man and possibly others would want, and so increase the protein and energy secured per day.

The menus may also serve as examples of meals which are well balanced as to variety and nutritive ratio, *i.e.*, the proportion of protein to energy, and as examples of simple meals which are not too plain in character to appeal to those who like to pay attention to the graces of the table. In this respect, also, they may be considered to represent the minimum of such meals, for it is obviously easy to add to them but no one of the dishes could be taken away from the menu without materially changing its character. The meals may easily be made more elaborate by adding one or more vegetables to the dinner, or a salad now and then, with or without cheese, by using milk as a beverage, and so on. Each added dish means more energy provided, but need not necessarily increase the amounts eaten, as many persons will simply eat a more varied but not a more hearty meal.

NAME OF FOOD	COMPOSITION OF FOOD — Protein	Fat	Carbohydrate	Mineral Matter	Water	COST OF FOOD PER POUND
	per cent	*per cent*	*per cent*	*per cent*	*per cent*	*cents*
Meat—Beef, mutton, etc.						
Flank	14–25	1–27		0.5–1	33–68	10–15
Neck	14–21	2–11		0.5–1	18–14	10–15
Clod	16–20	1–17		0.9–1.5	52–59	15–18
Round	16–20	2–23		1–1.5	50–65	18–25
Loin	12–18	13–24		0.9–1.5	44–66	25–40
Ribs	11–19	2–19		0.5–1	39–73	25–30
Poultry	16–21	1–20		0.4–1.5	47–75	22–30
Fish	10–22	1–17		1–2	35–85	10–40
Milk—whole	3–3.5	4–5	5	0.7	87	4–6
Skimmed	3.5–4	0.3–1	5–6	0.7	90	2–3
Eggs	11–16	8–15		0.6–1	67–75	20–40
Vegetables						
Potatoes, etc.	1–2	0.1–2	13–27	0.5–1	67–84	1½–3
Peas, etc. (dried)	12–24	0.5–3	57–70	2–4	6–12	8–10
Peas (green)	1–9	0.1–0.3	14–29	0.7–2	58–89	10–15
Cereals	6–16	0.1–6	69–81	0.2–2	2–13	2–12
Green corn	2–3	1–1.1	14–22	0.7–0.8	72–18	not determined
Greens	2–5	0.2–0.5	3–10	1–4	81–92	
Tomatoes	0.3–1	0.2–0.5	2–3	0.3–0.5	91–96	2–25
Fruits	0.1–1.5	0.1–1	8–29	0.2–1.1	77–92	not determined
Nuts	14–27	24–70	6–42	1–4	2–45	10–30
Macaroni	7–16	1–5	67–76	0.3–7	7–12	10–20
Cheese	15–30	17–38	1–4	3–6	31–45	20–40

Points concerning Fruits and Vegetables, Cheese, Beans, etc., to Be Considered in Planning Meals

Generally speaking, the more elaborate the menu the greater its cost and the greater the opportunity for waste. If out-of-season fruits and vegetables are added, and other foods which have a high water content and consequently low nutritive value, the cost is increased out of proportion to the nutritive material supplied. However, such foods are prized very largely for their wholesomeness and flavor rather than for nutritive material. If foods rich in protein and energy, like cheese or beans, are added, the nutritive value would be increased considerably, and the cost not very materially. Such considerations as these are fundamental to the intelligent planning of meals, and housekeepers should learn to think about them in these terms.

A $3 and a $16 Luncheon for Twelve Persons

Mrs. Thomas R. Marshall contributes to the discussion of possible economies in living, by giving data regarding two luncheon menus, one of them inexpensive, and the other costly.

MENU No. I

Beef bouillon	$0.45
Filet of beef	3.00
Squabs	6.00
Globe artichokes	2.00
Potato balls	.20
(Salad) Grapefruit and pimentoes with lettuce and mayonnaise	1.95
Roquefort cheese with crackers	.50
Fresh strawberry ice-cream	1.40
Angel cake	.45
	$15.95

$1.33 a plate.

MENU No. II

Tomato bouillon	$0.25
Beef balls	.66
Tomato sauce	.20
New carrots	.24
Creamed potatoes	.22
Cabbage salad with cream dressing	.45
Tea biscuit	.30
Coffee jelly with whipped cream	.40
Eggless cake	.20
	$2.92

$0.25 a plate.

In the discussion of the menus, it is pointed out that, although the first is five times as costly as the second, it supplies only a little more protein. In other respects the two menus are practically of equal nutritive value, and both, in Mrs. Marshall's experience, have been found palatable and pleasing. Recipes for the dishes enumerated are given in the publication.

The menus afford a good illustration of the value of intelligence, skill, and thought, in the selection of the less expensive dishes, and their combination into menus which do not unduly sacrifice the pleasures of the table. The housewife who wishes to combine economy with good living, can study with advantage the menus for her daily meals by the method suggested in this comparison of luncheon menus.

SWEETS, SOFT DRINKS, AND STIMULANTS IN THE DIET OF CHILDREN

BY

CAROLINE BENEDICT BURRELL

THE demand for sugar and sweets on the part of the child is due to a real need of the body and should be met wisely and judiciously. To deny all sweets is to make as great a mistake as to encourage the excessive use of them, and a child who has this natural craving satisfied by having it met in regular ways is not likely to be made unhappy by the refusal to gratify it in irregular and unusual ways.

The Use of Fruit

It is said that the desire for alcohol has its origin in this craving for sweets, sugar being in fact something of a stimulant. One of the best ways of satisfying the craving for sugar is through fruit. Many fruits are improved in this way by cooking. Bananas are delicious, and more easily digested cooked than raw. They can be used in many forms of flavoring. They may be put into delicious custards or jelly, and be most appetizing. Baked apples are always good. The apple may be cored and clear sirup poured into it, though if they are very sweet no sirup is needed. They should be cooked slowly, and not too much water is to be used. A little bit of sugar may be added if necessary. Many of the fruits of the garden will meet the requirement for sugar in the system if eaten uncooked. A delicious fruit-salad may be made of oranges, pineapples, and bananas together, or in any combination that pleases. Apple-salad will be found to appeal to children and nuts may be added to make it more nutritious and appetizing.

Honey Is Wholesome and Nutritious

Honey used to be on practically every table. It is now not so often seen, yet it is one of the most wholesome and nutritious of all of the sweets that can be given, and in the end is not expensive, as its use so fully meets the demand that one does not care for other sweets with it—eaten simply with bread-and-butter, it is delicious. Excellent ice-cream may be made by using a cup of strained honey instead of sugar.

Nearly all children love candy, and unless the need for sweets is met this is likely to be one of the ways in which the appetite is most abused and habits of extravagance are formed. For little children it is wise for the mother to buy candy and allow one or two pieces after meals. Home-made candy is less harmful than that of the stores, as the mother will not indulge in adulterations and controls the conditions under which the candy is prepared. The least said about some of the candy factories, especially those which put out the cheaper kinds of candy, the better. The recognition of the need of sweets and the wise meeting of that need will go far towards establishing health for the future years.

Soft Drinks and Insanitary Fountains

Our school children in cities fairly haunt the soda-fountains and the consumption of every sort of effervescent drink, as well as the constant use of soda and ice-cream, is a direct menace to health. Any one who has investigated the usual

soda-fountain knows that it is often unsanitary. The fountain is seldom cleaned inside, the glasses are washed in dirty water, the spoons are merely wiped, the cloths used in wiping up the fountain are dark with dirt—it is easy enough to see why doctors warn that typhoid fever lurks in every place of the sort! Yet it is here that our children drop in day after day to eat and drink whatever is provided. Cheap ice-cream, made with poor materials—and sometimes even twice frozen—buried under so-called "chocolate" sauce, or nuts which may be kept in half-fermented sirup, is always bad for any child, or indeed, any grown person. The bottled drinks offered are almost as bad. The pure food investigation showed that many of these contained materials absolutely injurious to health, and that some even contained drugs.

A soda fountain is a place of fascination to a child. It is so interesting to see the soda mixed! The different drinks are good to look at, and delightfully "fizzy." The ice-cream sundaes are wonderful in construction and cooling to taste. And it would be hard to forbid a child from ever indulging in anything of this kind, especially when "all the other children" may have them.

Find a Clean Place

But at least a parent should try to find a place where the fountain and the glasses are reasonably clean; by talking the matter over with the proprietor much may be done, as of course he will desire custom. Then the child may be told that he must not have mixtures of different kinds of cream and sirups, nor certain proprietary soft drinks. Instead he may be permitted to have plain ice-cream occasionally, or orangeade made from fresh fruit, or lemonade; the latter may be mixed with plain soda, and so be more attractive. But a parent should know exactly how often a child goes to a fountain, and what he gets there, and the dangers should be pointed out to him. There is no possible doubt that a daily drink at such a place means harm to a child's stomach. Then, too, there is the formation of a habit to be considered; nothing is more certain than that the establishment of a rule of "getting a drink" between meals has a tendency to lead to getting other kinds of drinks than soda when one is older. This is something a parent should seriously consider, and talk over with the child, who will understand its reasonableness.

Tendency to Extravagance

There is another way of considering the question quite apart from that of health, and that is the extravagance of spending one's money in such ways. No one who has watched the children of a public school go in and out of a shop where soda and ice-cream are sold after school hours, can fail to be startled at the amount of money which trickles away there each week. One way of combating this is to put the children on an allowance, and have them keep an account of what they spend each week. Then talk the matter over with them, and help them to realize how foolish it is to spend money for those things which give so little real return. If they are held to their allowance, and feel that it is their own money which they are spending, and that if they spend it foolishly they will have to do without things of greater value, they will soon learn to distinguish.

Home Soft Drinks

The craving for soft drinks, which is perhaps not unnatural in the warm weather, and is not confined to children, may be met in the home by the judicious use of fruit-juices. Apples, pineapples, grapes, and many other fruits yield a delicious juice which can be safely given to children, and which warm summer days make most welcome when it is "just off the ice." These are not much trouble to prepare, and in the summer, when fruit is fresh, they may be prepared in small quantities, so that there is no danger of fermentation.

The Matter of Stimulants

It seems scarcely credible that any mother would give her child anything in the form of a stimulant, since it is a well-known fact that stimulants are always harmful; and yet it is too true that in one form or another many children have them habitually. Coffee is perhaps the most commonly used. When it is not given every day, often on Sunday it is offered as a weekly treat. Good coffee with cream and sugar is delicious, when it is given as something rather rare it becomes even more so, and before the mother realizes it, she has established a habit which grows upon the child. He often has a sick headache as a result of this indulgence, but if the parents are accustomed to use coffee constantly they seldom attribute the headache to the right cause. His stomach may be upset on Monday; that is laid to over-eating the day before, or to some hidden cause. Whatever the effect on grown people—and this varies with the individual—the result of giving coffee to growing children is always harmful. How much better never to permit the taste to be formed than to cultivate it by giving small "treats" and then denying to the child what he learns to crave! If he will wait until he is a man before touching it, perhaps then he may take it with impunity. College teachers say that the

habit of breakfasting largely on coffee is one of the most unfortunate habits of both boys and girls. Tea, too, is deleterious to children, but that is not as palatable to them and the danger is less. The use of beer among children is an ordinary thing in Germany, where it is often given even to babies! In some parts of America the immigrants use it here, and the Italians give their children red wine at home and in our own land. It is not uncommon to find Italian children who have never walked, or who are suffering in other ways from marasmus, and the doctors account for this entirely from the use of these stimulants, which do not nourish the child or give him bone and muscle.

It is a safe rule to teach children never to take any stimulating drink whatever until they are men and women; if they do this, there is always at least a chance that they will never learn to take them at all—and on the whole, nervous Americans are better off without them, even the so-called harmless ones we take at breakfast-time. Our brains, our stomachs, and our nerves all do better work when they act normally, without stimulation and the reaction which follows.

Mother's Responsibility

It is wise to meet all "cravings" of the child's appetite in the home as far as possible. The child who realizes that "mother knows what is best," and is willing to allow special privileges when possible, soon learns to accede to her wishes. The wise mother studies the child, and realizes that certain physical conditions—and mental conditions as well—require special consideration on her part, and she will plan the child's diet to give the greatest good with the greatest happiness to the child.

DIET FOR THE CHILD: SPECIMEN MENUS FROM THE TWELFTH MONTH TO THE SIXTH YEAR

BY

DR. S. JOSEPHINE BAKER

From the Twelfth to the Eighteenth Month

First Meal—On rising: (1) 1 to 2 ounces juice of a sweet orange, or pulp of 6 stewed prunes, or 1 ounce pineapple juice. (2) 8 ounces milk with either zwieback, or toasted biscuits, or stale toasted bread. Note: Fruit must be given either ½ hour before or ½ hour after milk.

Second Meal—During forenoon: Milk alone or with zwieback.

Noon Meal—(1) 6 ounces soup, or 3 ounces beef-juice. Note: Soup may be made of chicken, beef, or mutton. (2) Stale bread may be added to the above.

Fourth Meal—Afternoon: Milk, or toasted bread and milk.

Evening Meal—(1) 4 ounces thick gruel mixed with 4 ounces top half milk; taken with zwieback. Note: Gruel may be made of oatmeal, farina, barley, hominy, wheatena, or rice. (2) Apple-sauce or prune jelly.

Total milk in 24 hours, 1 to 1¼ quarts.

Note: 8 ounces is equal to a half-pint.

From the Eighteenth to the Twenty-fourth Month

Breakfast—(1) Juice of 1 sweet orange or pulp of 6 stewed prunes or pineapple-juice (fresh or bottled), 1 ounce. (2) A cereal such as cream of wheat, oatmeal, farina, or hominy preparations with top milk (top 16 ounces), sweetened or salted. A glass of milk, bread and butter. Note: If constipated, give the fruits ½ hour before breakfast with water; if not, they may be given during the forenoon. Raw fruit juice must be given either ½ hour before or ½ hour after milk.

Forenoon—A glass of milk with two toasted biscuits or zwieback or graham crackers.

Dinner—(1) Broth or soup made of beef, mutton, or chicken, and thickened with peas, farina, sago, or rice, or beef-juice with stale bread-crumbs, or clear vegetable soup with yolk of egg, or egg soft boiled, with bread crumbs, or the egg poached, with a glass of milk. (2) Dessert: Apple-sauce, prune-pulp, with stale lady fingers or graham wafers, or plain puddings; rice, bread, tapioca, blanc-mange, junket, or baked custard.

Supper—Glass of milk, warm or cold; zwieback and custard or stewed fruit.

Total milk in 24 hours, 1½ quarts.

From Two to Three Years

Breakfast—(1) Juice of 1 sweet orange, or pulp of 6 stewed prunes, or 1 ounce pineapple-

juice (fresh or bottled) or apple-sauce. (2) A cereal such as oatmeal, farina, cream of wheat, hominy or rice, slightly sweetened or salted as preferred, with the addition of top milk (top 16 ounces), or a soft-boiled or poached egg with stale bread or toast. (3) A glass of milk. Note: If constipated, give the fruits ½ hour before breakfast with water; if not, they may be given during the forenoon. Milk and raw fruit juice should under no circumstances be given at the same meal.

Dinner—Broth or soup made of chicken, mutton or beef, thickened with arrowroot, split peas, rice, or with addition of the yolk of an egg or toast squares. (2) Scraped beef or white meat of chicken or broiled fish (small amount), or mashed or baked potato with fresh peas or spinach or carrots. (3) Dessert: Apple-sauce, baked apple, rice pudding, junket, or custard.

Supper—(1) A cereal or egg (if egg is not taken with breakfast) with stale bread or toast; or bread and milk, or toast and cocoa, or bread and custard. (2) Stewed prunes or some other kind of stewed fruit.

From Three to Six Years

Breakfast—(1) Fruits: An orange, apple, pear, or stewed prunes. (2) Cereal: Oatmeal, hominy, rice, or wheat preparations, well-cooked and salted, with thin cream and sugar; or egg: soft-boiled, poached, in omelet or scrambled. (3) Milk or cocoa.

Dinner—(1) Soup: Beef, chicken, or mutton. (2) Meat: Chicken or beefsteak or roast beef or lamb chops or fish. (3) Vegetables: Spinach or carrots or string beans, peas, cauliflower tops, mashed or baked potatoes, beets or lettuce (without vinegar). Macaroni, spaghetti. Bread and butter—not fresh bread or rolls. (4) Dessert: Custard, rice, bread, or tapioca pudding, ice-cream (once a week), cornstarch pudding (chocolate or other flavor), stewed prunes or baked-apple.

Supper—(1) Milk-toast or graham crackers and milk; or a thick soup, as pea, or cream of celery with bread and butter; or a cereal and thin cream with bread and butter. (2) Stewed fruit, custard or a plain pudding; jam or jelly.

3. Clothing

CLOTHES FOR FIRST CHILDHOOD

BY

CECILIA FARWELL

QUESTIONS in regard to clothing the children must be decided by many considerations—for example, the life which the child is to lead and that great important factor in all home questions—the purse. On the whole, however, little children should be clothed as simply as possible, and while "dress up" clothes may sometimes be elaborate, the play garments should be of plain, dark wash-material that will not soil easily. The child should have no "clothes-consciousness," nor should it be dressed in such a way as to attract attention.

"All but the Buttons"

It is surprising how soon a little child can learn to dress himself. We commit a great mistake in making our children helpless in this direction. Even though they do get a little stocking twisted or a skirt on wrong side before, they are learning a valuable lesson, and it takes but a moment to adjust correctly the ill-fitted garment. After a child has once become interested in dressing himself he will erelong relieve the mother to a great extent of this responsibility. A little girl of three prided herself on being able to "do all except the buttons," and when there are younger children in the family, as is frequently the case, the mother will find that having all done but the buttons is a very great help, and the lesson is as valuable to the child as the helpfulness is to the mother. This is one of the things emphasized in the Montessori teaching—making the child as independent as possible, and leading him along the lines of self-development.

From "Baby" to "Boy"

The transition from the straight bishop "baby" dress to the "little boy" dress is usually a hard one for the young mother, who is wont to feel that she is at last really losing her baby, but the change can be made so gradually that she will hardly notice it at all.

The first little boy dress is made perfectly plain, with perhaps tucks or a pleat over the shoulder for fullness, and the long sleeves and body in one. A loose belt is worn, and bloomers of like material. These little suits are very practical for the busy mother, particularly if made of crinkled crêpe, which is very easily laundered and requires no ironing, thus making it possible to keep the small boy always fresh and clean. Variations may be had by bands of contrasting material around neck and sleeves, and simple hand embroidery on his "best" dresses. For out-door wear in cool weather, bloomers made of dark flannel are both practical and serviceable, in conjunction with a warm sweater, which does not impede the little lad in his usually energetic play.

About this time baby also changes to the little knit shirt and drawers, which last button on an underwaist, much the same as older children wear. The baby is thus warm and comfortable and is not hampered by petticoats and pins. The greatest charm of these little belt-dresses is that they may be made so simply and prettily for the very little boy and may gradually become plainer and more boyish as the child grows older.

The Little Girl

There is less change in the baby dress of the little girl, though there is more opportunity for variety in making as she grows older. It is always charming to see a little girl dressed in white, but we realize now that white is not the most healthful color, and that the constant wearing of it is likely to affect children's eyes, and so we are wise to put the little girl into white only for "Sunday best." It is wise to begin now to cultivate in the child a sense of harmony in color by careful selection—it is as easy to buy pretty and harmonious colors as those which are not so, and a "sense of color" is a very desirable acquisition in a grown woman. "Favorite colors" may also be cultivated. This may save the mother the mortification of having her high-school daughter spending her first clothes allowance on loud and unsuitable garments.

Clothing to Be Suspended from the Shoulders

With all little children it is desirable that the weight of the clothing should hang from the

shoulders, and skirts and trousers should be suspended from a loose-fitting sleeveless waist. This can be made of very strong material, with buttons so arranged that a second skirt of the little girl, if worn, can be fastened on the first. To this waist also may be attached supporters for the stockings and drawers. Garters should not be worn, as they restrict circulation and are often the cause of great discomfort and sometimes real injury. When the boy puts on suspenders the waist may be discarded, but it should be worn by the girl until it is discarded for the hygienic corset-waist of early young womanhood.

Clothes for Play-Time

Children should be dressed in such a way as to enable them to make the most of their play-time. Too much thought is given to the "wherewithal shall we be clothed," and to restrict the freedom of the child with this consideration is a great wrong.

A little girl of seven came to spend the day with me, dressed in beautiful plaid silk. To my protest that she could not wade in the sand in such a dress, she showed me her little suit-box, in which was carefully folded a white, lace-trimmed dress. Having no little folks from whom I could borrow a suitable dress for her, I resolved that her mother's foolishness should not spoil her day, whatever it might do to the gown. But the child had been well trained; she could not forget the pretty dress, and I was driven at last to entertaining her, to my own disappointment, "like a little lady."

Little overalls for boys, and rompers for girls, of dark gingham or denim, are the best play-clothes. A Montessori School in Brooklyn, New York, furnishes to all of the children "brownie" uniforms that fit over the house clothing; and all go to the playground in these uniforms. Something of the same idea could be carried out for out-door dress for the little child who loves to climb and romp. When the little girl no longer wears rompers, it is desirable to make bloomers of the same material as the dresses. In this way all possibilities of sex consciousness are avoided, and the little girl can play as freely as her brother. For out-of-door play, bloomers of dark material, preferably matching her dress, may well be worn up to nine or ten years. Gain in health and strength growing out of freedom of movement is very great, and such freedom is impossible where the little girl must be continually reminded of her skirts. Girls will usually outgrow the disposition to boisterous play as nature puts upon them the restrictions which make it undesirable, but in the meantime they will have stored up physical strength and endurance for the strain that is to come.

"The Eternal Fitness"

The fashion of making the smaller child dress without a tight band around the neck is sometimes prettier than the high collar, but low-neck dresses with short, thin sleeves which do not protect the chest and arms, and short stockings leaving the knees and legs bare, should be discarded with the first damp days of the early fall. Children should not be over-burdened with heavy clothing, but they are very susceptible to changes of temperature, and the short socks which come about half-way, leaving the legs exposed to the bottom of the child's dress, are special invitations to cold. It is not an unusual thing to see a woman wearing furs, accompanied by a child of four to six in heavy overcoat with three inches of little legs absolutely without covering. "I would like to shake that woman!" exclaimed a physician, pointing to a mother and little boy passing down the street. "Why doesn't she turn the youngster barefoot and be done with it! He'd be worlds better off!"

Of course socks and sandals may be worn in the warm weather. It is often desirable to protect children's feet from grass insects or rough ground and stones, or, in the cities, the hot pavements; and sandals are better than going barefoot, though the little one who misses this luxury entirely has lost something of childhood for which no patent-leather shoes of later years can ever atone.

A Word for the Small Boy

"The ordinary way of making little boys' trousers is abominable," writes one energetic mother, "and is responsible for the beginning of many bad habits; they should be open in front, just like papa's. One objection to this is the impossibility of buying them so; but if mothers demand it, they will soon be in the market. Until that time, the fly can be adjusted to any pattern, and the trousers made by a seamstress. The drawers should be open the same way, and be fastened to the waist, or to the trousers, with button and button holes made for that purpose."

It is surprising how early small boys develop a sense of "boyhood," and resent the frills and furbelows with which fond mothers are likely to wish to bedeck them. It is but fair to respect this tendency, and however much the mother may regret to part with curls and ruffles, she should remember that the child's own sense of fitness is worthy of consideration; and she should help in

the development of those qualities that later will make for manliness, by dressing him suitably now while he is a little boy.

Health and Fashions

Many considerations must enter into the selection of children's clothes, but health is the first and most important. This seems another superfluous statement, but the fact remains that children have been made the victims of foolish fashions, and mothers have actually risked little lives because fashion decided that bare legs and elbow sleeves were the "correct thing."

There can be no power, no attainment possible for the man or woman to whom the birthright of good health has been denied. That there have been exceptions to this only brings us to greater realization of the truth, for when we study the exceptions closely, we find so much of bitter regret, of wasted possibilities—how great might have been the attainment if it had been unhampered. So much depends on the wisdom of the mothers in childhood years.

Of course it is necessary to pay some attention to changing fashions simply because to fail to do so will make our children different from other children, and so cause them unhappiness; but the children should be taught that simple clothes give larger freedom than those more elaborate, and they will soon appreciate the difference. When the children are started to school, clothes again become a problem for the mother, but the teaching given children for kindergarten dressing may again be brought out here, without making the children unhappy by too great differences between themselves and other children. The simpler the clothes the better.

Labeling Little Children's Clothes

"How many mothers label their small children? If all would, the anxiety caused by a little child wandering away from home and not being able to tell where it lived would be obviated. It takes but little more time to put the full name on the underwear in indelible ink than it does to put the initials; on the outer garment a convenient place should be selected—say the inside of the collar band or the edge of the sleeve—where the full address could be placed. If every one who happens to read this plan would adopt it and recommend it to others, there would be at once a beginning which might go far toward establishing a custom, the usefulness of which seems beyond question."

CLOTHING FOR THE OLDER CHILDREN

BY

CAROLINE BENEDICT BURRELL

To-day, far more than ever before, parents are considering the importance of their children's health, and realizing how greatly the factor of dress affects it. They are learning that hygienic clothing is better than bottles of tonic, and that it pays for a mother to put time and thought into understanding how to deal with what is a very real problem.

Health First

Unfortunately the words "hygienic clothing" convey an idea of something hideous and unbecoming, like the various developments of dress reform. But appearance and health may both be considered in the case of children's clothes. In old days children used to be loaded with flannel petticoats, ulsters, tippets, and mufflers all through winter weather, until they looked like ungainly bundles. Wearing so many clothes is tiring to a child, and it is well that we have learned that light woolen underwear and a loose overcoat are as warm as many layers of mixed wool and cotton. Many of us remember the dreadfully "scratchy" gray woolen flannels that made us wriggle uncomfortably through school hours in winter, and that memory should help us to buy clothing that has a soft, smooth surface, and is warm yet light; far more comfortable than the old-fashioned kind, yet quite as effective in staving off colds from the school children who will persist in wading in puddles and ploughing through slush.

Shoes and Rubbers

Shoes are of the utmost importance to a child. It is all too common for parents to buy those that are too short, and that means inevitable trouble in later life. The mother should try to buy square-toed shoes that give plenty of room for growing feet and cannot pinch anywhere. Patent-leather is unsuitable for children's wear, as it cracks so easily. For small

girls, light slippers with one strap are very attractive for summer, and sandals are excellent for both boys and girls. Worn without stockings in hot summer weather, they are a source of constant joy.

In bad weather the mother faces the problem of the much detested and elusive rubber. Puddles are irresistible, so that high rubbers are an absolute necessity, and rubber boots are desirable for especially stormy weather. In winter, leggings of heavy woolen material are excellent and with them a child may play in snow-drifts to his heart's content without fear of colds.

Corsets for Girls

With a growing girl the question of corsets is one that should be seriously considered: are they absolutely necessary, and when shall she put them on? The answer is—delay the time as long as possible, until the girl has practically stopped growing. Some people have the idea that corsets are good for the back, but quite the contrary is true. Give the growing girl a heavy-corded under-waist, let her take exercises in a gymnasium, and her back will take care of itself. Only too often girls are cramped into corsets which give them internal troubles that are sure to develop later on.

Suitability and Simplicity

After health comes the question of suitability, which applies quite as much to children as to grown-ups. To be over-dressed is never to be well-dressed, and one of the first signs of good-breeding is to be entirely unconscious of one's clothes. If a child hears clothes often discussed, and if he has a sense of being always dressed up, he is sure to become self-conscious. Children should first of all be given clothes that are suitable for Church or school and that are absolutely simple, and they will instinctively avoid that deplorably intense interest in dress of which we see so much to-day. Someone has described an afternoon in a park where the children were not allowed to romp or play for fear of hurting their snowy shoes, white coats and dresses, and white caps. Mothers and nurses encourage this "white plague," which often causes real suffering and takes away the chief privilege of childhood—absolute freedom. It is true that dainty white dresses and white shoes and stockings are charming, but they are appropriate only for parties and dancing school, when the tempting mud-pie and apple-tree are far away. If only children are suitably and simply dressed at all times, mothers will not stray far from good taste and common-sense.

Modern Inventions That Make for Durability

Many a woman complains when she faces a "barn-door" tear, that "Johnny is so hard on his clothes"—that "the darning bag is always of mountainous proportions" and that "buttons simply *won't* stay on!" Modern invention has done much to relieve situations of this sort. There are the guaranteed stockings—the heavier the better, for all children; there are hooks-and-eyes that cannot come off, and there are buttons sewed on with tapes. Buttonless clothes and heelless stockings are often as much of a trial to the child as to the mother and it is possible to buy all the devices that claim to withstand any strain.

In the matter of materials it is often felt that buying cheaply is economy, but with school dresses or trousers that are destined to see hard wear it pays far better to get plain, strong goods of the best quality, for the garment will not have to be renewed so soon.

When the Little Girl Starts to School

School is likely to have disastrous results for clothes and little girls who plunge enthusiastically into their education sometimes come home rather the worse for wear. Plaids and dark brown and blue materials are good, and over them may be worn protecting aprons—not the befrilled, lacy ones that used to delight the heart and vanity of children of the "Little Women" time, but plain, serviceable ones. Those of blue or buff linen, of simple design, with strings that tie behind, are excellent, and they may be made attractive with cross-stitch animals and feather-stitching that take very little time to do.

Simple Frocks, Not Fussy Ones

Sailor-suits are popular for girls of all ages, and very wisely so, the only drawback being that it is difficult to have them made at home, and when they are bought ready-made the hems are not deep enough for letting down. For as soon as the growing stage is reached, hems and cuffs that may be lengthened become most necessary. It is simple enough, however, to have double hems put in, as well as tucks, and they are always useful. The little girl should have several simple Russian-blouse and one-piece frocks for spring and fall, and they may be made of plain colors with little or no trimming and a black belt. Pink, blue, or yellow ginghams with small yokes of smocking are cunning, and easily laundered, and do not muss as readily as the lighter dimities. If the child goes to parties, she will need one or

two best dresses. These may be made of lawn, with a small flower pattern, or of dainty dimity; and small tucks and a little lace at the neck and sleeves are becoming, with bright ribbons and a sash to match. Simple slips of one piece look well under them and pink or blue ones are very pretty for a change. If the climate is cold, soft cashmere of a delicate shade is charming and an embroidered collar makes it dainty. Children should not have fussy clothes even for the best, and lovely, delicate little frocks may be easily and inexpensively made, which look far more appropriate than elaborate ones.

Hats are a problem that faces even the tiniest feminine person and is usually a source of annoyance. Hoods and bonnets for very small girls may be worn in winter time, as well as plain sailor hats. Broad-brimmed leghorns with tiny flowers or simple black velvet are attractive for summer. In the realm of hats the key-note is the same that applies to all the departments of children's clothing—absolute simplicity.

An Outfit for the Little Boy

The dressing of a little boy is a far more easy matter. Tweeds and corduroys and heavy, durable material may always be bought, and as the boy's demands are few and simple, his wardrobe does not need to be an extensive one. A strong school suit of dark material and simple cut, that is first of all comfortable, is an essential. Then, too, he should have flannel shirts of gray or khaki and corduroy knickerbockers for Saturdays and holiday wear. He will need a Sunday suit, of blue serge if possible, and a couple of comfortable caps; with an overcoat his outfit is practically complete. All boys wear out shoes with incredible swiftness and it pays to buy the very heaviest ones, and a pair of high-laced boots for winter. For a Boy Scout, one of the regular costumes of the organization makes a good and extremely useful Christmas present.

The main thing the mother should avoid is "fussing" over her son's wardrobe, or demanding much interest in it from the boy himself. At the age of ten roller-skates and tops are much more fascinating than neckties and collars, and it is a mistake to over-emphasize dress in the young masculine mind.

It is difficult to keep growing boys fitted out with the right kind of clothes, as they get too big for their garments so rapidly, but in spite of the expense it is usually more considerate not to attempt at home to cut down the father's things to make small overcoats and trousers. Boys are sensitive about being laughed at, and would rather wear outgrown things than left-overs. The first requirement in all boys' clothing is comfort, whether the actual styles are up-to-date or not. It is kindness to supply a boy with rough-and-ready things, for he frequently suffers more from being over-dressed than one guesses.

The Cultivation of Good Taste in Dress

It is a mother's duty to teach her daughter good taste in dress just as in other questions—to try to train her to appreciate what is artistic and what is not, just as much as what is tidy and what is not. The danger, of course, is that a girl may become vain by dwelling upon these things too much. But if she is given simple, tasteful, and appropriate clothes, she will instinctively choose the same type in later years. It is wrong for a mother to neglect a girl's wardrobe, and to give her anything that happens to be at hand, for a sensitive child suffers acutely from feeling herself dressed differently from other children and she is likely to be made unhappy by wearing conspicuous or eccentric clothes. There is a distinctly refining influence in simple costumes, and the girl easily learns to shun loud clothes as vulgar. But this does not imply that such a wardrobe is especially economical—this may or may not be true; it is better to put cost into the choice and cut of goods than it is to buy the girl many cheap dresses of inferior quality and ornate trimming. In after years the girl will undoubtedly blame her mother if she has not been taught how to dress; she will feel that an injustice has been done in not training her in such matters earlier in her life.

A Face-Veil at the Age of Twelve

There is a stage in every girl's development when she becomes a "regular little peacock," and finds her hair-ribbons and ruffles the most fascinating things in life. She should then be taught that it is not wisdom to put too much time, money, and thought into dress; that clothes are of only superficial value and that immoderate extravagance may be a sin. The case of one girl will show how far one may carry her interest in her wardrobe. She bought two hair-ribbons a week, wore white gloves to school, insisted on hatpins and even attempted a face-veil—all at the age of twelve. She had no idea of the value of money, and the family bills began to increase alarmingly, with the result that she was put on an allowance—and kept there.

It is surely wrong for any parent to let a girl develop tastes of this sort, and the best cure is to give her a restricted allowance—twelve years is not too young, and sooner or later she will develop a sense of economy. Rigid discipline

of this kind is the only antidote for vanity and extravagance in a growing girl and in spite of the grumbling that will probably result, it is well worth while. It may also teach her to make her own shirt-waists and let down her dresses, which is an excellent beginning for practical sewing. The desire for a new dress is the best incentive for her to try to make it herself.

Children Should Be Free from the Afflictions of "Style"

It has been truly said that if American mothers are foolishly extravagant in one particular thing, it is in the dressing of their children. Our shop-windows are full of dainty lace and satin garments, and frills and furbelows for tiny children are seen on the streets of our large cities every day. Even the poorest mothers lavish a large part of their earnings on dressing up the babies until they look like uncomfortable little French dolls. And above all, America has become "style-mad" in recent years. From "hobble-skirts" to basques and tunics, we have all succumbed to the motto, "Let us be stylish or die"—and the blight has descended on the children. Nothing could be more incongruous than to see a draped satin waist on an ungainly girl of ten—yet the shop-windows flaunt such things in our very faces. Boys often undergo untold distresses because the mother hears the clerk say that this is the collar that will be worn this year—so Willie has to wear it, whether or no.

From time to time the fad takes hold of mothers to have the children dress in small reproductions of their own costumes. Children prefer to be healthy young animals, free from the horrible affliction of being dressed up. Styles for children should remain practically the same from generation to generation, with the rigid laws of simplicity, beauty of line, and perfect freedom the only standards; and this conservative view is rapidly gaining in popularity with wise mothers.

CHILDREN AND VANITY

BY

CHRISTINE TERHUNE HERRICK

Are small children born with vanity, do they achieve it, or is it thrust upon them by injudicious parents, relatives and friends? That vanity exists in the heart of the average child no one can doubt. "I don't know what to do with my little girl," said a mother, "she is only five years old, but her chief thoughts are given to clothes. I bought her a silk bonnet the other day and she looks at it with scorn. She had set her heart on a plush bonnet, and she talks of it constantly! She is always watching the clothes of other children and comparing them with her own, and at home she spends much of her time posturing in front of a mirror."

Probably this child was born with a tendency to vanity, but it could hardly have attained such dimensions if it had not been fostered by praise of her looks, or by talk in her presence which gave an undue importance to dress.

Right and Wrong Ways of Correction

"Don't tell me that vanity is confined to girls!" laughed another mother. "My small boy of three has a long white coat with a blue collar and cuffs made like a German dress uniform, and he wears a little blue visorless cap with it. The other day I found him admiring his reflection in the cheval-glass. 'Aren't I stunning?' he said complacently."

"What did you tell him?" I asked.

"Not at all," I said. "You are a very plain little boy and no one would look at you a second time!"

This does not seem to me quite the way in which to correct vanity. The boy may have been disconcerted for the moment, but as he was really a pretty child, he could hardly escape more or less frequent compliments, and in a short time he would probably be called upon to decide whether it was his mother or a number of other persons who were in the right about his appearance.

Childish Vanity Should Not Be Corrected by Painful Methods

More than this, mortification is not the best method to cure a child of vanity. In many cases it drives them from satisfied self-consciousness to unhappy self-consciousness.

"Much of my childhood was darkened by my conviction of my surpassing unattractiveness," confessed a woman, who although not beautiful, could never have been really ugly. "Again and again I was told, 'Put as much as you can inside of your head, for no one will ever care to look

at the outside!' I had a predisposition to morbidness, and I dwelt upon the idea of my ugliness until I dreaded to meet strangers, because I felt that their first thought would be of my unattractiveness. The admonitions did have the effect of making me devote myself to study, but I think the same result might have been won by means which would have been less painful."

Often vanity is entirely unconscious and children may outgrow it naturally. I have a clear recollection of a small girl of my acquaintance, who, having heard or read of hair which was brown in the shadow and golden in the sunlight, used to take a great deal of innocent pleasure in standing on a chair in front of the bureau and studying in the mirror the effect of her own hair when the sun was upon it. Undoubtedly there were golden gleams in the brown locks, and the fact gave her a happiness and comfort which brought content to her and did her no harm.

Grown-ups Frequently at Fault

I do not believe that unwholesome vanity exists in the majority of children unless it has been cultivated—perhaps ignorantly—by vain or thoughtless adults. If a mother bestows undue time and thought upon clothes, talking of those she wears and those worn by other people, placing dress in a position of false importance, it is only natural that her children should follow her example.

Unfortunately too few influences are brought to bear to counteract this kind of vanity. From every side comes testimony to the high esteem in which outward appearance is held, and even with wise home teaching a child is likely to give a fictitious value to dress and decoration and too little to conduct and character.

"Do you notice much vanity among your pupils?" I asked a woman who had taught dancing for many years. "Not so much as one would expect," she replied. "I discourage it in every way possible and lay stress upon courtesy of word and action. When parents ask me how their children are to be dressed for the class I tell them I prefer simple afternoon frocks, and I impress the thought upon the children that politeness and grace of manner are of more importance than fine clothing. Of course, some parents will send their children over-dressed, but these are the exceptions, and I have not found the children who were more plainly clad made unhappy by their simpler attire."

Like so many other qualities of childhood the question of vanity seems to be chiefly in the hands of the mother. By her own course and precept she may discourage this trait in her children and may train any tendency they have in this direction into a helpful instead of a harmful influence.

A Wholesome Self-Respect

We cannot call that vanity which leads a man, woman, or child to wish to appear well in bearing, appearance, and dress. Rather, it is a wholesome self-respect, and those who are careless of how they look or comport themselves, lack something desirable in a finished character.

"I remember how thankful I was when my boys began to care a little about their appearance," reminisced a mother of sons. "It used to be the struggle of my life to induce them to wash their hands, to change their collars, to brush their hair. So long as they were comfortable, nothing else made any difference to them. When they recognized the existence of girls as desirable companions they began to appreciate the value of soap and developed an interest in ties and socks! They wished to look well, so as to commend themselves to this or that girl, and so formed habits of tidiness which have never been lost."

This is what may be done by the impulse in boys and girls which resembles the preening of the bird in mating season. The instinct has its use in cultivating a proper care for appearances, but there is something deeper and more important than that which the mother must recognize and she must have within herself a true perception of proper pride as opposed to mere vanity.

When we neglect the graces of person which God has bestowed upon us we are guilty of a fault like unto that of the man who hid his talent in a napkin. Personal beauty is a divine gift, and it is as great a mistake to underestimate it as it is to give it false importance. We do the latter when we dwell upon questions of appearance and fail to emphasize the thought that the inward development must match the outward attractiveness.

An Irish Nurse's Adage

"Yes, dear, you are a pretty little girl," I heard a wise mother say once to her small daughter. "Your Heavenly Father has been very kind to you, and you must try with all your might to make your heart as beautiful to Him as your face is to others. It would be a dreadful thing if they did not match, and if you repaid Him for His gift by having a heart full of ugly, unkind, and selfish thoughts." Another version of the old saying that "Handsome is as handsome does," or as an Irish nurse used to say, "Beauty is only skin-deep, but virtue goes to the bone!"

Mothers do not always understand as they

should the value of a sense of responsibility in directing childish vanity from harmful into beneficial channels. "God has His ideal for everyone of you," I heard a Bishop say once to a confirmation class. "Try to live up to that ideal!"

Something like this we should teach our children. Whether or not good looks have been their portion, they should give attention to bringing their hearts and minds to a high standard, and should cultivate such attractions as have fallen to their share. They should fairly appreciate and try to improve what gifts they have with the aim of attaining to the highest ideals—not with the low conception of competing with or surpassing others in appearance.

Real Attractiveness the Result of Beauty of Character

In pursuance of this we should teach our boys and girls to comprehend how much beautiful character has to do with attractiveness. The best loved and most useful men and women have not always been those with perfect features and figures, but those who, whatever gifts of beauty they may have possessed, have forgotten self in consideration for those about them. To quote F. W. Robertson, "What was the secret of such a one's power? What had she done? Radiant smiles, beaming good-humor, the tact of divining what everyone felt and everyone wanted, told that she had forgotten self and learned to think of others." In comparison with this how petty seems thought for personal appearance! If we hold such faith ourselves we can instill it into our children and aid them to gain the understanding of what is meant by the best beauty and how far this is above mere good looks and fine clothing.

Yet we cannot abolish entirely an interest in dress, and we make a mistake when we try to do so. In one of her delightful books for girls, Mrs. Whitney has described the trials of living with an old maid aunt who dressed her in unsuitable and ugly garments. As a natural sequence the child's mind was all the time on her apparel. Later, when she was able to choose her own attire and felt she was properly clad, her thoughts were free to turn to matters of the mind and spirit.

Suitableness—Simplicity vs. Extravagance

Let us dress our children suitably then, first of all, and make them comprehend that this, more than anything else, constitutes true beauty of raiment. To clothe children in gingham and calico for daily wear, and to array them in silk and satin and laces on grand occasions, is bound to give them a false sense of proportion. If we look at life as we should we strive to make our homes and ourselves even-threaded throughout—not to bring simplicity into a violent contrast with extravagance and thus make both appear absurd.

In such connection there always comes to my mind the story of the tramp with a taste for finery who informed a would-be benefactor, "I can get along without a clean shirt—but I'm perishin' for want of a buzzom-pin!"

We see too much of that in our American life —showy clothes outside, insufficient and coarse underclothing, a sham display for the sake of producing an effect and disregard of the foundation. We do not want to bring up our children with this estimate of life.

"Even-threaded" Homes

I have spoken of making our homes "even-threaded." The influences of such a home on the children cannot be over-rated. The household where the mother and father set the example of keeping within their means, where nothing of real moment is set aside for the sake of "making a splurge," where due importance is awarded to beauty and suitableness as aids to culture and development, is not the sort of place where vanity is cultivated in children.

If such vanity lifts its head the child who displays it should not be snubbed and punished, but taught gently that, while a due regard for personal appearance is necessary, this of itself is of little value, if it is not backed by something to admire in character and disposition. Such precept is on the same line with the correction of physical defects.

"Dear child, the prettiest frock will not look well on you if your shoulders are round and your head poked forward," I heard a mother admonish her small daughter. "I want my little girl to be straight inside and out, to have a lovely mind and soul in a lovely body."

Do you say this plea would not appeal to children? If not it is because we have made some mistake in training and have not taught from the first that the outward appearance and the inward character must conform to one another, and that both must be beautiful. When we begin this in time the idea will grow as children grow and simplicity and naturalness will be a matter of course. Self-consciousness and artificiality must be cultivated or they would not flourish, and if they spring up and grow when you have not sowed them, you must pluck them out as you would weeds, and plant beautiful flowers of character in their place.

CHILDREN'S UNDERWEAR

BY

THE EDITORIAL BOARD

THERE has been so much clever advertising concerning hygienic underwear (says a writer in "Pediatrics"), that the public has been led imperceptibly to believe that there is a specific virtue against cold in certain weaves and meshes in place of woolen fabrics in winter. At least this appears to be the idea that patients have concerning their doctor's advice.

In the widespread reaction against woolen underwear, flannel petticoats, and warm stockings, the "new" mother seems to think that her physician is prescribing a modern discovery for her child, instead of realizing that he is only trying to mitigate a very bad hygienic state of affairs in the over-heated atmosphere in which his patient lives. Even though it be winter, it is impossible for anyone to be comfortable with wool next to the skin when an apartment or house is heated to a temperature of between 70 and 80 degrees F. Physicians who advise light-weight clothing that allows the heat of the body to pass off readily while in the house, and an exceedingly warm set of garments for outdoors, are simply adapting the clothing to conditions which they cannot overcome, and are frequently laying up a stock of snuffles and coughs for the children, in the spring and fall. After artificial heat is dispensed with, the general temperature of the house is much nearer that of the outdoor air, but it is likely to be at least 20 degrees cooler than what the child has been accustomed to in the winter weather.

Spring and Fall Dangers for Little Children

One fallacy of the idea lies in the belief that if the light-weight undervests were sufficient in January, they ought to be sufficient in May and October. These months, as well as the summer months in the cold climates of the Adirondacks and Maine, are when children should be provided with flannel and woolen garments to wear on days when the temperature is cold. We incline to think that the old adage of wool or half wool and half cotton undergarments for children up to two years of age is the most practical. Of course this requires an exception in the very hot weather of cities. Perspiration and prickly heat will occur with unpleasant consequences if a child is too warmly clothed, but when one remembers the lack of exercise and the inability to get out of draughts, as well as the damp condition of the clothing which so often occurs, one feels like warning mothers that the old-fashioned idea of the woolen binder and knitted socks may be safely carried out, with very few judicious exceptions, throughout infancy.

The mother who swathes her year-old infant in flannel bands and shirts and jackets when the temperature is 95°, and wonders why it has prickly heat, is as unwise, but no more so, than the mother who casts off the woolen band entirely all summer, regardless of cool mornings and sudden breezes, and wonders why the child has diarrhea. We advise very strongly from principle and experience that the majority of children, summer and winter, should have on hand moderately warm underclothing, to be used or not with discretion, according to the temperature of their habitation, and that in cold weather they should help to equalize the difference between indoors and out by the addition of warm outdoor garments.

"Hardening the Child"

The hardening process which some advise is generally but an artificially applied prescription of common sense to the children of wealthy homes, where there is nothing naturally hardening in the hot-house atmosphere. The majority of children, however, are brought up in town and country homes, where the indoor heat is irregular and often insufficient. They run in and out-of-doors freely, without the careful attention of wrapping up each portion of the body evenly. It is therefore, we believe, advisable that the body should be evenly clothed with flannel outer garments. Thus the child whose own heat is not used and preserved by suitable underclothing is at a disadvantage in the first days of outdoor life, especially in the raw spring days. We suggest that if at no other time warm underclothing is used, it be on hand for country days when indoor and outdoor temperature is alike raw.

Natural and Artificial Heat

It is impossible to advocate any one method of clothing for all children. The over-steam-heated class, whose physicians prescribe well-advertised linen meshes of various fibers, are but a small percentage of children. The main underlying

principle is to teach a child to create its own heat by exercise, rather than to depend upon artificial heat, and then to conserve that heat as the animals do, by warm clothing. For the change of temperature during the passage from indoors to outdoors is not as perceptible when the child is surrounded by a layer of its own bodily heat that is not too easily radiated through the clothing.

There is a vast difference in children. Some are so full-blooded that the slightest exercise causes them to perspire, and to catch cold readily, if the changes are extreme; these should be lightly clothed, and especial care given to draughts. Others become blue and livid with cold, through poor circulation; these should be clothed in wool or half wool and half cotton underclothing from wrists to ankles, and wear merino stockings and warm overshoes in cold weather, so that they may waste no particle of their natural heat in warming the air immediately about them.

TEACHING GIRLS TO DRESS TASTEFULLY

BY

MARY A. LASELLE

For some time the family in a suburban home had noticed that the Lady of the House was not her usual cheerful self. In vain were their attempts to dispel the cloud which hung over her. The Business Man brought home tickets to the best plays; the Observer told his weirdest experiences in the great world, whose doings he reported for a daily paper; and the Professor haunted the bookstores in search of literature that might interest her. The secret of her pessimistic state was not revealed until a visit from her young cousins, the Misses McFlimsy, made it no longer endurable; as the four sat around the table at dinner upon the night of the young ladies' departure, the Lady burst forth. "Was there ever a time since the beginning of the world," she wailed, "when women made such freaks of themselves! I was so ashamed of those girls—I mean of their clothes; their manners are perfect. I could not bear to go out upon the street with them. And it isn't those young girls of whom I am most ashamed. It is of the women of this country who will allow such outrageous, absurd, freakish, crazy fashions to be foisted upon them—by foreign milliners and dressmakers, too!" The Lady looked at her family, as she closed her somewhat incoherent remarks, like one who had confessed the worst, and longed for help, but did not expect to receive it.

The Professor Would Alleviate the Lady's Distress

It was the Professor who first sought to lighten her distress. "Well, Lady," he smiled, "if you are ashamed of women because of this spasm of freakish garbing, what do you think of civilized man, who has submitted to the claw-hammer coat for generations? The man never lived to whom it was becoming; yet men have worn the hideous coat over rebellious hearts simply because they were held firmly enthralled in the toils of fashion." Amidst applause from the other men, the Professor's eyes sought the Lady's face—into which a brighter expression had come.

"Yes, my dear Lady, we are all alike," laughed the Observer. "And if any one would tell me why several millions of thinking, scoffing human beings do not boldly wear whatever garments they please, provided they are respectable and becoming, I should be extremely grateful to him."

The Lady's face soon became grave again, and she revealed more of her troubled thought. "The worst of it is," she said, "that this absurd mode of dressing must show a shallowness of mind, a lack of character, that will become a hideous menace to the development of the national life. Women who will allow themselves to dress in this outlandish style must be silly and weak, and in time the result will be disastrous. Many of our young women now dress in costumes that are so exaggerated as to lack refinement," she ended.

The Fashions of the Sixties

During her last remarks the Professor had been absent from the room, and now he returned bearing a large handful of photographs.

"Here," he said gayly. "When you get too pessimistic, Lady, just look upon these. This is your Aunt Mary when she was eighteen." And he held up a photograph of a young girl whose long ringlets, short waist, voluminous hoops covered

with more voluminous skirts spoke of the '60's. "And this," he laughed, "was your Aunt Jane when she was twenty!" And the four burst into peals of laughter at the portrait of a young lady clad in an atrocious plaid dress, and perched upon tiny high heels in the attitude classically designated during a certain period as the "Grecian bend." "Now, neither your Aunt Mary nor your Aunt Jane can be accused of being shallow, or abnormally vain or silly. In fact, they are two of the most sensible, cultured women I have ever met; so don't worry, Lady, over present tendencies in young women's dressing. The pendulum will swing to sense again; and the young girls who look like hopeless freaks to-day will be the sedate, sensible women of ten or a dozen years from this time. This is a passing phase of modern life, and only that. It is laughable, and in a certain sense deplorable, but it must not be taken too seriously."

A few days later the Lady returned from a meeting of the Mothers' and Teachers' Association of the village with a much brighter look upon her face; and when the family was gathered in the library that evening, she confided the cause of her lightened spirit.

Concerted Effort to Change

"You see," she began, "mothers of young girls all realize that only by concerted effort can a style of clothing that is tasteful and suitable be substituted for the foolish, unbecoming dressing now in vogue. Any young girl who has to dress in a manner quite different from her friends regards herself as a martyr, even though her dress may be much more becoming and beautiful than that of her companions; therefore, mothers must work together in this matter, and must also enlist all possible help in the cause of more tasteful dressing for young girls. To-day the Mothers' and Teachers' Association listened to a paper describing some work that is being attempted along the line of good dressing in one of the public schools."

At the words "public schools," the usually mild Professor broke in with a flood of protest. He declared that the schools at the present time were staggering under loads that were appalling. He said that they had taken upon themselves the responsibility for the child's mental, moral, and physical development; and, under the head of vocational guidance, they were laden with the task of finding positions for the strong and the weak, the capable and the incapable; in fact, they had assumed the stupendous work of making efficient citizens out of all the material that came within their doors.

Shall "Good Dressing" Be Taught?

"A child's physical health," he stormed on, "must be vigilantly looked after in the schoolroom; her hearing, her eyesight, her teeth, her adenoids, her nerves, and in some schools even her baths must be attended to at school. And now it seems the teacher must be an authority upon fashion in dress as well!" he concluded sarcastically.

The Lady listened patiently to this harangue, while the Observer made a note for an article on the subject, "Should Good Dressing Be Taught in the Public Schools?" and the Business Man remarked that the present-day family seemed to be of little importance in the rearing of the child.

Here the Lady broke in eagerly. "But we are all to help in this work, as outlined to-day. The mothers, the schools, the managers of department stores—and, yes, the press, too—are to do very, very important work along this line of good dressing." She looked meaningly at the Observer, who made another note: "Good Dressing Can Be Secured Only by Concerted Effort."

A School Experiment

Pleased with the interest of her audience, the Lady went on to tell of some of the work already accomplished in a certain school, and to outline the work that it was thought could be done by concerted action. It seemed that, discouraged and disgusted by the freakish garbing of her young girl pupils, as they attempted to follow fashions made to enrich manufacturers, foreign designers of costumes, and the makers of fashion books, Miss Brown decided to wage a campaign for the more suitable dressing of her pupils.

In order to ascertain whether the girls knew when one of their number was tastefully clad, she requested all the girls to register a vote one morning for the pupil who was most becomingly and suitably dressed for her school work. To her delight she found, upon counting the votes, that a certain girl who was dressed in a white tailored shirtwaist, dark blue serge skirt, well-fitting low-heeled shoes, and whose hair was becomingly and simply arranged, had received the highest number of votes; while another girl, in a one-piece brown cheviot dress, with brown ribbons at her neck and upon her hair, had received the next highest number. This proved that even the girls most unbecomingly and foolishly dressed knew what tasteful dressing was. Miss Brown then had a conference with the drawing, sewing, and millinery teachers—for this was a school of practical arts; and during the rest of the term all the instructors of these girls aimed

at producing clear ideas of becoming and sensible dress in the minds of their pupils.

Selecting a Hat.—Beginning with the hat, the teacher of drawing and the school milliner cooperated in showing the girls that a neat, simple hat in which the trimming followed the contour of the hat was more tasteful than one with an imitation palm tree, or a long feather, at the back, whose only purpose seemed to be to point towards the sky. Then, too, by sketching differently shaped faces and hats it was easy to see which was the most happy combination of hat and face. The round-faced girl saw that she should not wear a narrow hat, but one that slightly rolled at the front and sides. The long, thin-faced girl must not wear high-pointed trimming, but a trimming that emphasized the width of the hat. Silhouettes helped much in illustrating errors in taste; and the girls saw that a large, beplumed hat should not be worn by a short person, nor with a short skirt. They saw, too, that a hat should be chosen before a mirror showing the whole figure, in order to have it in proportion.

Arranging the Hair.—The dressing of the hair was next studied; and by drawings and illustrations it was shown that the round-faced girl should not wear her hair in two round masses on either side of her forehead, lest the width of her face look out of proportion to its length. The oval-faced girl saw how becoming neatly-parted hair, combed down behind the ears, was to her type of face; and all saw the distortion produced by the Marcel wave, and its lack of harmony with any *young* face. The bad taste of the soiled or too wide bandeau of ribbon, and the extent to which one's defects could be emphasized by exceedingly large bows and by colors not harmonizing with the complexion, were made evident. The girls decided that white bows should not be worn with a pale skin, nor black ones with a skin that is dark and swarthy; and they saw how becoming brown bows of the right tint are with auburn hair.

The Suitable Blouse.—The blouse was discussed from the point of view of purpose, material, beauty, and cleanliness; with the result that the so-called transparent blouses were declared undesirable, and the words, "a clean, laundered blouse," were written upon the School-Girl's Dress Chart, which the pupils were preparing. It was easy to see the superiority in cut and style of the well-made tailored blouse over the much trimmed lingerie waist; also its peculiar fitness as a blouse to be worn upon the street. The lingerie blouse, with very short sleeves, low-cut neck trimmed with cheap lace, was declared an imitation of a better blouse suitable for home and evening wear, and, like all other pretenses, was decided to be in questionable taste.

The Skirt—Color and Cut.—The skirt was first discussed from the point of view of material; and the excellent qualities of serge, mohair, cheviot, Scotch mixtures, gingham, linen, and muslin were all brought out. Colors were then considered, and color combinations that were desirable or the reverse were studied; also the methods by which small accessories of the dress, as tiny bits of color, would bring some contrasting hues together. The cut of the skirt was a very important matter, and necessitated much tact and skill in presentation. It was necessary to prove that many modern costumes have the power of caricature. In fact, that they are caricatures. And from the study of fashion plates, silhouettes, drawing outlines, and other illustrations, the girls were made to see: First, that a skirt should never emphasize the trunk of the body, by scantiness of material, or by lines of drapery or trimming; second, that it should hang easily and gracefully from the hips; third, that it should be wide enough at the bottom to swing gracefully as one walks. The fact was everywhere made clear that a really well-dressed woman is never conspicuous, and that a dress so striking in design as to demand attention "asserts itself above the wearer with unpleasant results."

"And did any of these girls adopt this improved style of dressing?" broke in the Business Man. "If they did, I should like to employ them in my store as object lessons to our salesgirls."

Wisdom in Shoes.—"I will come to that later," smiled the Lady. "We have not spoken about the shoes yet. When the dressing of the feet was reached, Miss Brown felt that she must have help from a regular physician and an orthopedic doctor; so these competent persons addressed the girls. The regular physician showed them pictures that illustrated the spinal curvatures and other ailments resulting from high heels; and the orthopedic doctor, by the same method, showed in vivid fashion the horrors of bunions, corns, and broken arches.

"The clothing chart that the girls had been making was now completed; thus summing up the facts established in their study of suitable dressing. These were the statements upon the chart:

A School-Girl Should Have—

"First, a neat, simple hat in which the trimming follows the contour of the hat, and the shape and color are becoming to the wearer;

"Second, her hair neatly and simply arranged in a manner that is best suited to the outline of her face;

"Third, a clean, laundered blouse, or a blouse of good cut forming part of a one-piece dress;

"Fourth, a modest well-cut skirt that does not distort or caricature the form, of a color and a material suitable for much wear;

"Fifth, clean, whole stockings and underwear;

"Sixth, well-fitting shoes with low heels."

While the Lady was reading these items, the Business Man was jotting them down; when he had finished, he said with emphasis, "I shall place a printed copy of these in our office as the required dress of our salesgirls;" and the Observer jotted down another subject, "What Measures Can Be Taken by Public Institutions to Compel More Suitable Dressing on the Part of Employees?"

"But did those girls change their style of dressing at all?" again inquired the Business Man.

"They did," replied the Lady, "and their influence caused a great improvement in the dressing of the girls in that entire neighborhood.

What Skill with the Needle May Accomplish

"A talk upon the proper time and place for the wearing of jewelry, laces, and delicate fabrics resulted in the discarding for school wear of many jingling ornaments and much partly worn finery. Better color combinations and a better style of hairdressing were noticeable all through the building. As a result of this work in the school, a manager in a department store has placed in his office the words, 'We expect all of our saleswomen to dress simply and suitably;' and the editor of one of the local dailies has offered a prize for the best essay from a high-school girl on suitable dressing for the young woman in business; and so the good work is spreading."

"Our women's colleges might well do some work along this line," said the Professor.

"A young girl, skilled with her needle, may dress tastefully on a small sum," continued the Lady. "One well-dressed young girl in Miss Brown's class spent only thirty-five dollars upon her wardrobe last year. This girl makes her own underclothing, dresses, coats, and hats. She has at present in her wardrobe, as a result of her own skill, nine well-made dresses, three coats, two hats, two middy blouses, and a good supply of well-made underclothing. She has studied textiles until she knows what are the most profitable dress fabrics, and her work in drawing and design have taught her how to combine colors effectively and the style of dressing most becoming to her. This girl finds as an effective help to good dressing the thought 'there can be no beauty without fitness to purpose.'"

Two Clothing Budgets Prepared by Miss Brown's Class

A Girl's Outfit for One Year; Age 14 to 17; Cost $75

(Some of the underclothing was made at home)

4	summer vests	$ .12½	$ .50
2	winter combinations	.75	1.50
3	prs. white drawers	.25	.75
2	corsets	1.00	2.00
4	chemises	.50	2.00
2	flannelette petticoats	.25	.50
2	petticoats	.60	1.20
4	nightgowns	.50	2.00
6	prs. stockings	.25	1.50
2	middy blouses	1.50	3.00
2	shirt waists	1.87½	3.75
2	skirts	3.50	7.00
3	dresses	4.00	12.00
1	winter coat	5.50	5.50
1	spring coat	3.75	3.75
3	hats	2.00	6.00
4	prs. gloves	.75	3.00
4	prs. shoes	2.50	10.00
2	prs. rubbers	.50	1.00
10	ribbons	.30	3.00
	handkerchiefs	....	1.50
	accessories	....	3.55
	Total		$75.00

A Girl's Outfit for One Year; Age 14 to 17; Cost $35.97

(Most of this clothing was made at home)

2	summer vests	$ .12½	$ .25
2	winter combinations	.75	1.50
3	prs. white drawers	.25	.75
2	corset waists	.50	1.00
3	corset covers	.25	.75
2	flannelette petticoats	.25	.50
1	white petticoat	.85	.85
1	black petticoat	.75	.75
2	nightgowns	.59	1.18
4	shirt waists	1.00	4.00
1	dress skirt	2.70	2.70
1	cotton dress	2.50	2.50
1	wool dress	3.50	3.50
1	coat to be worn two seasons	6.50	3.25
1	summer hat	1.00	1.00
1	winter hat	1.24	1.24
1	pr. wool gloves	.25	.25
1	pr. kid gloves	1.00	1.00
4	ties	.10	.40
6	ribbons	.15	.90
6	handkerchiefs	.25	.25
6	prs. stockings	.12½	.75
3	prs. shoes	2.00	6.00
1	pr. overshoes	.70	.70
	Total		$35.97

THE CHILDREN'S FEET

BY

CECILIA FARWELL

ONE of the most common causes of nervous irritability, of inefficiency and failure is foot-trouble. This is far more prevalent than we realize, and in a great many instances is due to entirely preventable conditions in childhood. It is important that mothers should realize this fact, and from earliest infancy take special precautions to guard against anything which may cause deformity and malformation. Heavy clothing which drags over the feet should be avoided, and care should be taken that the little bootees are loose, rather than snug. Caution is necessary, as the child grows old enough to stand in the lap, that weight is not put upon the little legs and ankles which they are not strong enough to stand. Often harm is done in this way before the child begins to walk at all, and the resultant weak or bending ankles causes weakness which lasts for years, and sometimes for a lifetime.

Dr. Jacob Grossman, writing upon this important subject, gives the following suggestions:

"Creeping by infants should be encouraged. Infants should be placed upon their abdomen. The desire of locomotion will soon induce the child to become accustomed to creeping.

"Abnormal locomotion, such as sliding over the floor on the buttock, develops when children are forced to assume a sitting posture at too early a date, the creeping period being suppressed.

"The period of creeping must be changed spontaneously by the child into one of walking. Only when a child of its own accord attempts to stand up and walk ahead, holding to some surrounding object, should it be permitted to do so.

"It is absolutely unphysiological and dangerous to permit these infants to wear shoes, for they cramp the feet and interfere with their future development.

"To force children to walk, either with the aid of a nurse or with go-carts or walking apparatus, is absolutely objectionable. All such appliances and devices of any construction whatever are impracticable and unnatural. Hastening the commencement of locomotion increases the danger.

"Children should not wear shoes until they begin to walk, and then only periodically. They should be permitted to walk in their bare feet, as this allows the free and proper use of the muscles employed in walking.

"Children should not be taken on long walks where there is little or no opportunity for them to rest when overcome with fatigue."

The Normal Foot

Dr. Grossman further says: "The outline of the normal foot is practically the same throughout life. The inner border is almost a straight line and the outer border is curved, with the convexity externally meeting the inner border anteriorly.

"With few exceptions, this outline is not interfered with until the conventional shoe is worn. The continual wearing of these shoes will eventually result in deformed feet. Not only does the shape cause mischief, but the heels are also offenders. They are usually too high. A high heel strains the foot, leading to unnatural positions, and producing week feet.

"A vast majority of weak feet result from the conventional shoe. This condition is very often overlooked, probably because it is erroneously called flatfoot. In an analysis of seven hundred cases of weak feet there were a very small percentage that showed a flat impression.

"The symptoms of weak feet are not referred to the feet. In children, the gait is awkward. They walk upon the entire sole of the foot. The toes are turned outward, and the soles and heels of the shoes are worn down on the inner side. The children tire quickly, complain of pain and discomfort occasionally, and want to be carried continually. Such weak feet in childhood are often the beginning of severe deformities."

Shoes for a growing child should be long enough and broad enough to allow free movement of the foot, and as soon as the foot grows so that this is impossible the shoe should be discarded at once. One pair of shoes, purchased too small, or worn too long, may do harm that may last a lifetime. Children's shoes should be half-soled promptly, when this is necessary, to prevent callous formations on the soles of the feet. Carelessness in the prompt discarding of outgrown or outworn shoes is the cause of many foot-ailments.

THE MORAL SIDE OF THE CLOTHES QUESTION

BY

THE EDITORIAL BOARD

THE question of clothes, and especially women's clothes, is one of the most important in the world, and is well worthy of our most serious consideration. Study the advertisements in the magazines—sum up the industries of our big cities—consider for a moment the basis upon which some of our biggest commercial ventures rest. Follow the commercial traveler or explorer to the furthermost parts of the earth—to the tropics, where spider-threads of silk and piña-cloth are woven—to the cold shores of Alaska, where human life is risked over and over for priceless furs—to the rocky gorges of the Himalaya Mountains for the wool of the wild goat, and ask the "why" of all of these. How often the answer is "clothes"! Yet long ago it was written, "Consider the lilies of the field; they toil not, neither do they spin." It is necessary that we should be clothed, and yet, is it well that so much of life, of human effort, and of human sacrifice should center about this question? In the mass it makes for industry and commerce, and next to the question of food-supply may be said to be the greatest question of this commercial age; but we do not enough consider the question of its moral influence upon us.

This question of clothes has played its share in revolutions and has made bitterness and strife between class and clan. As civilization advances and the luxuries of one generation become the necessities of another, it more and more affects the national life and character. We of America have not escaped its influence, and it is fitting that we should look for a moment upon what it means to us as a people. There is no problem of the world's interest that does not sooner or later become an individual problem. Individual influence counts in community life, and our national life is but the summing-up of community life.

The Matter of Self-Expression in Clothing

The individual meets the problem of clothes according to many influences—character, education, environment, and perhaps most of all, purse. All of these govern the answer to the "Wherewithal shall we be clothed?" Let us look for a moment at these influences. We are surprised if we see a man of whom we have heard much, whose personality and intellectual gifts have won for him place and position in the world, come forward to meet us dressed in striking plaids or loud stripes. We instinctively recoil, and feel that something is wrong. Yet the same clothes on the man who is known as a frequenter of the race-tracks, while they might call forth our contempt, would not excite our surprise, or even our special condemnation. For we expect the clothes to express in some measure the character of the man, and when we find these two in harmony we accept it without special attention. Similarly, we would not expect to find the distinguished statesman or college professor attired in garments cut like those his grandfather wore.

That Subtle Thing We Call Good Taste

It is not the following of fashion or failing to follow fashion by which the character of the man or woman is expressed. That subtle thing which we call good taste in dressing finds expression in its possessor no matter what may be the extreme of fashion. It avoids loud colors and combinations, elaborate over-dress or under-dress, yet its possessor is the one whom we turn to look at the second time, for good taste is distinctiveness and has an individuality of its own that is far more than extreme of fashion.

This does not mean that dress is not an important factor. Indeed, it is always an important factor, but it should befit the occasion, the place, the time, and the station in life. We say that we have no classes in this country; but this, while true in the larger sense, becomes a source of greatest untruth when applied to individual cases and individual experiences.

"Costly thy habit as thy purse can buy," is as good advice now as when Polonius gave it, nor can we deny that purse makes class and caste in democratic America. It is only when we can realize that *worth* makes as it were a Brahman caste—a caste above all castes—and have made an effort to lift our ideals and our lives to this standard, that we are strong enough to put away the minor considerations.

The Economic Strain of Following Fashion in Its Constant Changes

But the mad rush to follow changing fashions, which has been one of the distinctive features of the last decade, is exacting a heavy price in efficiency and character, especially of our women-

kind. The gown that could at one time be worn two or three seasons, to-day is cast aside in a few short months, and energy that could be directed into better things is absorbed by the effort to keep pace with changing fashions, while the selfishness which develops as a result of so much thought on this subject undermines spiritual and moral strength. Moreover, with the realization that a garment will be worn but a short time, we are satisfied with poor material and indifferent construction "provided the lines are right," and this too has its effect upon the souls of us. But neither cheapness of material or construction has lessened the financial strain of following changing fashions, for the outlay in dollars and cents for garments has not lessened.

The Part Clothes May Play in Social Discord

This fact has greatly increased the burden of the bread-winner, who is also the clothes-winner, and has been the source of as much domestic unhappiness as any other one influence in our social life to-day. And this influence reaches far. The young, thoughtless woman who has not been trained from her girlhood, fails to realize that clothes are, after all, a minor consideration, and her interest centers upon them as the all-in-all of existence. Seeing a companion or a friend or even a woman whom she passes in the street wearing a garment which it is impossible for her to attain, she becomes unhappy and makes others unhappy, and it may be, pays to the utmost for her vanity. It is not from the ranks of the utterly wretched poor that the greatest number of those in the ranks of the "white slave" traffic are recruited, but from what we term our "great middle class," where class competition is greatest, where girls are not taught the right estimate of values and fall for the sake of the beautiful set of furs or the clothes "like other girls wear."

The striving of those whose family income is rated at a thousand a year to imitate and keep pace with those who can command three thousand, and in turn the struggles of these to keep pace with those of five thousand, and so up the scale, is one of the greatest sources of unhappiness and of discord in our social life, and perhaps nowhere does this discord find such radical expression as in the matter of clothes. Too often the mother, mistaking the lower for the higher, will say, "I am going to dress my daughter just as well as Mrs. Jones dresses hers; I guess my girl is just as good as hers," and implants not only seeds of bitterness in the heart of her own daughter, but low ideals as standards toward which that daughter is to reach.

How the Unwisdom of Elders May Encourage False Standards in Children

Earlier than we realize we begin to influence the taste and the ideals of little children in this matter of dress. When we allow them to become self-centered and selfish, we encourage them to the expression in later years of these qualities, and self-adornment is one of the forms which this expression is most likely to take. The little girl who constantly hears herself called pretty, who is cautioned over and over to be careful of ribbons and ruffles and laces, over-estimates the value of these things and comes at last to look upon them as of supreme importance. The boy who is dressed up and paraded before the mother's admiring friends and called "cute," develops during the adolescent years a self-admiration and a selfishness which not only make his interests center in dress, but schools him to demand the ministering to his vanity which can only come through association with those as weak as himself, and so leads him into the ranks where the vanity and selfishness of the one sex play upon the weakness of the other.

It is a mistake to dress a little child in extravagant muslins, laces, and silks. It is often very easy to make a silk dress for a four- or six-year-old of a remnant, or to buy at a bargain-counter materials which can be made into elaborate and dainty frocks. A little child never looks well in anything which is inappropriate, and if the surroundings of the child are of "calico or gingham" the unfitness of the dress is intensified. A mother shows herself foolish and unwise in encouraging the forming of tastes which the child cannot indulge in later years, when it is no longer possible to be clothed in remnants. It is better to dress the child simply, even if the probability is that later in life more elaborate and expensive garments may be worn. The girl who has been taught to wear calico or gingham happily and gracefully, when life so changes that silk and velvet become her portion will wear these with equal grace and equal unconsciousness, but if the standards set for her are of tawdry imitation she will never be able to appreciate the real and the genuine, to care for the diamond more than the paste; she will always be satisfied with showy exterior and cheap combinations, no matter what may be the changes which will come to her.

The Barbarous Extremes of Feminine Fashions—The Blood-Stained History of the Egret

While "the fashions" control somewhat in men's clothing, it is in the adornment of women

that the question becomes a great moral issue. This feminine instinct of self-decoration leads to extremes of fashion often ridiculous, often unmoral, and frequently barbarous, and it seems characteristic of us that the higher the civilization the greater the extreme in this direction. There is perhaps but one argument to be advanced against "Votes for Women" and that is that she "makes such a fool of herself" in regard to clothes. The statement is quite indisputable, and as an argument it is almost irrefutable—we have only to glance at any fashion-book of the day to prove it.

Is it not a terrible criticism upon women, who we say have the instinctive mother-love, that they deck themselves with the egrets of the white heron, which are the insignia of motherhood for that beautiful bird, and to obtain which not only the birds themselves are sacrificed, but their little ones are left to starve? How can a mother wear one of these, and how dares she wear them before her own children, who must some day learn what they cost! Nor can we say that women do not know, for the National Association of Audubon Societies has made sure that they shall know; and the story of their efforts to save these beautiful birds and of the murder of the keeper whom they placed in one of the best-known nesting-places to protect them, has been told all over the world. Yet we still see egrets decorating the heads of women who should bow in shame at the wearing of them.

Is it well that a woman who would shrink from cruelty and turn pale at the sight of blood, should deck herself in those things which encourage barbarism and cruelty in persons whose commercial profits lie in ministering to their vanity? A young man once confided to a friend, "Were it not for one thing I would long ago have declared myself a slave to a certain young lady, but when I see that bird of paradise on her hat, I hesitate. Think of its cost in cruelty and suffering; but more deterrent than the cost is the fact that I cannot help thinking that one who plumes herself with such characteristic insignia of savagery must still contain within herself a large remnant of the barbarian." Said a little girl of six, "I don't like you when you have that dead bird on your head, mamma; its eyes are so glassy and staring. Poor little dead bird, it always makes me feel so sorry when I see it!"

Every Woman Must Take Sides on This Question

The moral side of the clothes question is one which every woman must take into consideration, and decide for herself. She decides it one day or another, whether she will or no; there is no middle ground on great moral questions. Long ago it was written: "Ye are either for or against me." We may refuse to take into consideration the arguments put before us, but the influence of our life is certainly mustered upon one side or the other.

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FIVE BUSY LITTLE MAIDS

4. Hygiene

FRESH AIR

BY

CECILIA FARWELL

ONE of the first prescriptions that we make for the tiny baby is fresh air. We put him out-of-doors to sleep just as soon as we may reasonably do so, being careful to tuck him in warmly, but realizing that the fresh air is the best tonic which we can give to him. I have seen a six-months-old baby brought in out of a snow-storm as warm and cozy as could be, cooing happily after her two-hours' nap in the open. Hands and feet were warm and little cheeks rosy, and there was no nervous fretfulness on the awakening. Of course, she was properly covered and protected. The umbrella of her carriage kept all snow away from her, and down in her little nest's warm blankets she had slept as warmly as if it were June, and there were no snow-storms anywhere in the world.

As the child grows older and can run alone, we emphasize it once more—fresh air—and again, fresh air! Bundle up the toddler and let him run out-of-doors; keep him out just as long as is possible. You are storing health, strength, and vitality for all of the years that are before him. If it is summer time he can play in the sand. If you have only four feet of yard, front or back, turn it into a sand-pile—it will yield you richer return than from any other way of using it.

"My Yard Is Full of Roses, Too"

When the baby is a baby no longer, but a "great, big boy" or girl, ready to start to school, don't forget that unless you make sure that as many as possible of the out-of-school hours are spent in the open, the in-school hours will put a tax on his nervous strength and vitality which may accrue with interest against all the years of his life.

The teacher does the best she can—for most teachers to-day realize the need of special effort in this direction—but open windows too often mean draughts, and unless school buildings are correctly constructed it is impossible so to ventilate that the children do not suffer in one way or another from the long hours of confinement. During vacation days let the children *live* out-of-doors. One mother whom I know has turned a part of her small back-yard into an out-of-doors dining-room for the little folks—they enjoy this delightful change, and every day is a picnic day. When a neighbor compared her own beautiful back-yard, filled with roses, to the one adjoining, with its sand-piles and picnic-grounds, the mother smiled on her little brood and answered, "My yard is full of roses, too."

Summer-Time Camping—Sleeping-Porches—Window-Tents

Out-of-door sleeping porches are now a part of almost every architect's plan for a home, and many of those who live in old-fashioned houses have enclosed porches with screens, and reach the same result. Wherever possible, let the children sleep out-of-doors. In the summer time take them camping and let them sleep on the ground, with pads of pine-needles and balsam-boughs under the blanket; let them get close to the throbbing, beating heart of nature. Let them learn of her ways and study her secrets; let them understand the meaning of the whisper in the trees; and with every heart-beat of their own throbbing in response to hers, they will store dynamic energy that one day will show iself in the force and strength and power possible only to the man who has nature's greatest gift—good health.

When an out-of-door sleeping-porch is impossible, we should make sure that during the summer every window is left wide open; and in the winter, when this may, for various reasons, be impracticable, window-tents may be so arranged that all of the advantage of out-of-door air is gained for the sleeper without too much cold in the house. These window-tents are made of canvas, and so constructed as to fit closely into the window and extended in tent fashion over the bed in such a way as to leave the head of the sleeper in the tent and practically out-of-doors. In cities people are taking to the roofs and building little shelters in which

they can gain the advantage of sleeping out-of-doors. Out-of-door sleeping is, of course, one of the essentials in the treatment of tubercular trouble, but the pleasure of it should not be foregone by those who need not take this into consideration; and the ounce of prevention which so far overbalances the pound of cure will be found to work in other ills besides that of the dread "white plague." The breathing of pure, fresh air, free from house depression, cannot fail to make one stronger. The lungs are our best soldiers, fighting all forms of disease; through them the blood is purified; and we owe it to them to give them every possible advantage in doing their work.

In cold weather the out-of-door sleeper should bundle up well in the warm room, and jump into bed quickly, with as little exposure to the cold as possible, and if the out-of-door sleeping is held to throughout the winter it would perhaps be well to use hot bricks or a hot-water bag in the bed a few minutes before retiring. A hot stone wrapped in flannel in one corner of the bed will throw off heat slowly all night long, and make one as comfortable as if sleeping in a room warmed by the best radiators. Out-of-door sleeping seems a rigorous régime; but when one has once experienced the exhilaration and the pleasure that come from it, he will be loath to return to the old way.

Fresh Air in the Living-Rooms

The value of fresh air in the home during the day must not be forgotten. Some day when everybody is cross, and everything seems to go wrong, try opening all of the windows and letting in the breeze, and see how quickly everything will change. When troubled and anxious, when the day's work seems too hard, stand in the sunshine and take a long, deep breath—fill every inch of the lungs with pure, fresh air, and troubles will seem less, work easier. Even in the winter we must not shut our rooms too closely against out-of-door air. A window-board, so fitted as to let in the air without admitting it directly upon those in the room, a transom opening into a well-ventilated room or hall, or a window down from the top, with perhaps a curtain to break the wind—these will make for happiness and cheerfulness in the living-room.

It is impossible to be happy and to do one's work well in a room from which the fresh air is shut out. Three or four people soon use up the supply of oxygen, and the air is breathed over and over. The occupants of the room become stupid and dull, and are often at a loss to understand their own physical and mental condition. Difficulties arise which would not be given a second thought if all felt well and vigorous; headaches and dizziness prevent interest and cheerfulness; and all that any one needs is a breath of fresh air!

In the morning every window in the house should be opened, and the air be given a "clean sweep" through the house. If there are invalids, or delicate plants, the rooms containing them may be shut off to prevent possible harm, but the living-rooms should be thoroughly aired. It will be surprising how much difference will be made in the home atmosphere through simple observation of the rules of ventilation. Coughs and colds are contracted because of lack of fresh air, rather than because of too much of it. When one is shut in a close, illy-ventilated room all day, he is very likely to take cold on going out.

THE RELATION OF FATIGUE TO MORALS

BY

WILLIAM BYRON FORBUSH

THERE is perhaps no matter concerning which it is more important for parents to be observant than signs of fatigue in their children. And this not only because fatigue may be the prophecy of physical illness but because of its close relation to character. It may be stated almost as an axiom that the child who is tired cannot be good. Some parents do their children more injustice by mistaking fatigue for wickedness than in any other way. We are often tempted to whip our children for what is really nothing but exhaustion.

There is a very interesting chapter in Prof. Michael V. O'Shea's "Dynamic Factors in Education" on "The Influence of Fatigue on the Efficiency of Mind and Body." It does not deal directly with the relation of fatigue to morals, but every statement made as to the influence of fatigue on the efficiency of mind and body has an even more direct bearing on character.

In the first place, he says that fatigue interferes with the will of the child to engage in any vigorous action. Even the child who has not engaged in physical exercise all day may be so tired at night after school that he does not want to exercise; not, of course, because his muscles are tired, but because the brain is tired and so is unable to stimulate the muscles to vigorous action. This no doubt accounts for a great deal of the so-called "laziness" of children, a moral malady with which most parents have little sympathy. The father or mother who has been working all day, finding the child—who has been having, as it seems, an "easy time" in school—indisposed at night to help in household tasks, is very quick to rebuke him for selfishness and carelessness and unwillingness to be helpful. There is no doubt often some reason for such an accusation. The fairest thing to the child, however, is, by close observation, to determine whether or not he is suffering from mental weariness.

The Uninterested Child Is Probably the Wearied Child

A still more serious accusation which is sometimes brought against such a child is that he has totally lost interest in home affairs. Now it may be that if the child is tired he has an equivalent loss of interest in affairs at school or even at play. He is naturally more interested in play because, unconsciously to himself, his play, exercising another set of muscles and other lobes of his brain, may be a real rest to him. The uninterested child is such a rarity that the probability is that he is the wearied child.

Fatigue Impairs the Ability for Fine Work

Another result of fatigue is the inability to do fine work. It shows itself in school in apparent slovenliness in sewing or writing. The moral manifestation is in apparent carelessness at home. The child stumbles over every obstacle, spills everything that can be spilled, and annoys us by his apparent unwillingness to care for valuable objects or to do his work well. There are certain years, especially in early youth, when this awkwardness is largely due to the irregular growth of the nerves and muscles; and when it occurs at other periods in life we ought to observe carefully if the child's hand trembles or his voice is unsteady or if he shows any other sign of weariness.

Other Results of Fatigue

Another result of fatigue frequently is that the child becomes tense, rigid, restless. The child who annoys us by roaming aimlessly about the house, unable to attach himself to any special task, is not necessarily a scatter-brain. He is probably nervously so weary that he loses, to a degree, his self-control. A wise mother used to say, "I never make any serious demands on my children after four o'clock in the afternoon." This mother had learned to recognize the signs of nervous exhaustion.

School-teachers find that the most frequent sign of fatigue is inability to focus attention. This, in school life, means that the child does not become master, while in this condition, of any subject of study. In the home, the manifestations are more serious and they have their moral meaning. The child who appears to be disobedient may simply be so tired that he is no longer able to be attentive to a given command. The child who is never ready for a task or appointment may be in the same situation. Even the ability to tell the truth accurately depends very strongly upon the power to focus the mind; and that appreciativeness of benefits received from others, which is so beautiful whenever it is shown, is often lacking chiefly because the tired child is unable to grasp the full meaning of what has been proffered him.

We spoke of apparent disobedience as caused sometimes by inability to attend. It is caused at other times by another sign of fatigue—namely, loss of memory. Mountain climbers have testified that after attaining great altitudes with almost complete exhaustion, they had no memory, upon returning to the foot of the mountain, of what they had seen upon its summit. The tired child is the forgetful child.

A still more serious sign of fatigue, both in the school and the home, is its effect upon the emotions. A child who is overstrained is ill-tempered, is irritable, is not easily pleased. These traits make trouble for the school-teacher, although even a child in such condition is generally amenable to the discipline of the schoolroom. In the home, however, his irritability reacts directly upon the temper of his mother and a strained situation often starts from the physical weariness of the child.

The Latest Virtues Are Then the Easiest Lost

When a child is fatigued he is more or less powerless. He cannot inhibit. The latest virtues to which men have attained in the process of evolution are the first and easiest to lose. Gracious kindliness and considerateness are immediately lost by the man who is under the influence of intoxicants. They are also lost immediately

by the fatigued child. With this helplessness go melancholy and discouragement. The emphasis of the egoistic side of his nature is benumbing. Such a child is in a condition to be pitied, not to be punished. What he needs is not a whipping nor a scolding but quiet, seclusion, and rest.

It is astonishing how many of the so-called moral problems of infancy, childhood, and youth are solved as soon as we study their physical causes. Bad air, poor ventilation, broken sleep or rest, unrelieved drudgery, absence of rest-spaces in school or play, or the strain of over-tension in recreation or amusement—any or all of these may produce results which we think of as spiritual but which are in essence physical. The Greeks were wise in their idealism when they appealed for a strong spirit and a strong body. They sought for strength of spirit, however, through strength and poise of body. This quest, if a child have a normal constitution and careful training, will never be disappointed.

THE HOME GYMNASIUM

BY

THE EDITORIAL BOARD

THE home gymnasium can be arranged with very little difficulty, and the advantages of it for the child are very great. A punching-bag and boxing-gloves appeal to the small boy, and often equally as much to the small girl, and these wonderfully attractive things may serve as inducements to bring the boy home instead of wandering about, and perhaps loafing in barns with idle comrades, who induce him to put on the boxing gloves and give him a bleeding nose as a result.

An empty loft in the barn; an upper room in the home—if the room is not too full of other things; the old-fashioned attic if the house is so constructed—any of these serve as ideal places for the children to rig up bars and poles and swinging ropes. These and other things can be made at home with practically no expense and the children enjoy them quite as much as the expensive apparatus of a gymnasium.

The boys may gather here on rainy Saturdays to contest their prowess, with none of the influences toward evil which so often are part of boy gatherings in vacant lots or buildings. So often there is one boy whose misfortune it is, through wrong teaching or environment, to be an influence for harm among his mates, giving them the knowledge and language of the streets, daring them to smoke and to chew, and leading them sometimes into actual violation of community laws. Such a boy will not willingly come to the home, or if he does the mother or the older brother can counteract his influence, and may perhaps be able to interest him and bring new impulses and inspirations into his life. This will make the home gymnasium worth while, if nothing else is gained.

All Outdoors Is Really a Kind of Gymnasium

The attraction for the girls will be equally as great if the gymnasium is equipped with due recognition of their needs. Clubs and dumb-bells, a mattress for special exercises, and a basket-ball and "baskets" for playing basket-ball, will make the gymnasium of as great interest to the girl and her friends as to the boy. In summer weather this last can be on the lawn, and indeed our gymnasium may well call all out-of-doors its own. The building of a snow-man in December, skating on the home pond, and sliding down the pasture-hill are as fascinating as any of the indoor interests. The spirit and the purpose of it all is to make children feel that the home is their own, and that their interest and their well-being are taken into consideration, and make them feel that home is the best place of all, that they will find sympathy and coöperation, and that their friends are always welcome.

While it is not possible to supervise the home gymnasium scientifically, and perhaps the children do not gain as much from it as they do from the well-organized Y. M. C. A. or Y. W. C. A., or similar organizations, there are other games that compensate for this. And then mother or older brother or sister may be near to arbitrate in difficulty, without too much interfering in liberty; to advise and suggest new interests and amusements; to smile with appreciation at new attainments or wonderful display of prowess. Memories of all this will be an influence for good throughout the lifetime of the child.

Correct Postural Habits

It is very important that the child should early learn correct positions and poise of the body. Hard, unadjustable school seats work their worst upon pliant, growing bones and muscles, and unless something is done to counteract this influence physical defects amounting almost to deformities are likely to result. Many a child has gone into public school strong, vigorous, and well-formed, and come out of the eighth grade with rounded shoulders, hollowed chest, or curved spine.

It is very important that the mother should note from time to time *how* the child is growing. It is not enough that he shall stand up and be measured, and a record of inches gained kept on the door-casing. After children have been in school a few weeks abnormalities may begin to develop, and if unchecked may result in lasting harm. In the evening, when the child is undressing and stands without clothing before the mother, let her inspect growing shoulders, even hips, and straight spine.

The Mother's Watchful Care May Prevent a Painful Operation

Too often, after children are old enough to take a bath without supervision, the mother practically never sees them except when clothed, and thus little imperfections in growth escape her notice. There is a lump here, a hard spot in another place, an enlarged gland or maybe a ruptured tendon, which, unless it is accompanied by great pain, is never inspected. Some day, however, when it has been growing for years maybe, the child calls attention to it and is rushed off in all haste to a physician, who pronounces a painful—and perhaps expensive—operation necessary for a defect that might have been corrected by change in habit or poise, or maybe by a judicious massage or bandage. These physical examinations should be continued all through the years of childhood. They should not be emphasized, and father may take the task with a growing boy, but they should not be omitted. Puberty brings its own complications, and the child who has heretofore been "as straight as an arrow," may now begin unaccountably to droop in shoulder and slouch in walk. Or some new peculiarity may develop that means something physically wrong. It is unfair to a child arbitrarily to command him to straighten up his shoulders, when the position of the shoulders is due to a weakness that ought to be and could be corrected by a little wisdom on the part of the parent. The statement applies to many other reproofs which adults thoughtlessly administer.

Girls with Weak Backs Should Not Be Put into Stays

The tendency to put growing girls into corsets is excused often on the ground that the muscles must be supported; which is about the most absurd argument ever offered on the corset question. There are reasons for wearing carefully constructed, hygienic corsets which practically every woman recognizes, but this is not one of them. If a girl has a weak back there is something the matter. If the muscles of the trunk are so inefficient that she falls forward as soon as she sits down, correct the weakness—do not put her into stays. Find out what the weakness is by making a careful physical examination. If this does not show the trouble let the physician make the examination. The possibilities of *wrong growth* continue as long as growth continues. Deep breathing will do much for the girl whose trunk muscles seem not sufficiently strong to hold her body erect. The girl who complains of weakness in this direction should be taken out of corsets until she is strong enough to "stand and sit alone."

A Simple Exercise for Correct Standing Position—"Playing Soldier"

Many a child is badgered by being told to "stand up straight," and makes a desperate effort to obey by craning his neck and protruding his stomach. Teach a child to stand correctly by placing one hand between the shoulders in the back and the other on the abdomen; gently push forward with the upper hand, at the same time gently pushing backward with the lower, directing the child to take a deep, full breath. This lifts the chest, throws the shoulders back, and at the same time the hips swing into correct position. Repeat this simple exercise two or three times a day, when the child seems too lazy to stand up straight.

A child can be spurred to special interest in correct standing by giving him the correct military position and encouraging him to play soldier. He should be taught to lift his chest, holding his head poised evenly between the shoulders, with arms hanging straight at the sides. Little boys can be taught that the fingers should lightly touch the side seam in the trousers. This gives the correct position of the arms.

A Good Appearance from Correct Poise

There is nothing that contributes so much to the appearance of a man or woman as correct

poise of the body. We instinctively turn to look again at one who walks with head erect, shoulders straight, and hips well back. The very ease with which they move impresses us, and if we have not learned the reason, we strive to imitate them.

Correctness of posture makes for good health, for when the shoulders are thrown back, there is plenty of space for the lungs and the other organs of the body to do their work in. We have but to look at the man who bends all day over books and holds this position when he gets out on the street, to note the nervous tension so plainly visible about the eyes and mouth, and the sallow complexion that indicates dyspepsia. No one thing which such a one can do will be so beneficial as maintaining correct poise of his body and strengthening the body muscles by right exercises. We should give special attention to this during the years of adolescence, as habits formed then are likely to hold throughout life.

The Value of Brief Relaxation

There is a difference between laziness and tiredness; when children are too tired to stand up straight, they should rest by lying down for a few moments. This does not mean that they should be rushed off to bed, but let them drop where they are on carpet or grass, if the weather permits, relaxing for a few moments, then find occupation and interest in less vigorous play until nature has had time to restore harmony. This takes only a few minutes at this age, but excessive fatigue, either in work or play, may work exceeding harm.

It is not often that children will over-tire themselves in play, unless spurred by excessive competition, which for this reason should not be too much encouraged. The competitive element in child play which figures so strongly from eight to eleven years of age is one of the reasons why children should have wise supervision on playgrounds. Muscles used to overstrain and lungs strained to exhaustion often demand heavy payment; and a child so weakened becomes more quickly a prey to disease.

School-Room Seats Often Cause Trouble

One of the worst results of the hard, unadjustable seats in the ordinary school-room is the habit into which children get of "sitting on the end of their spine." Adults realize how difficult it is to sit on a hard, straight-backed chair for long without a desire to relieve this position by slipping down into the chair. School-teachers will call attention to positions, but many do not show children how to sit correctly, and nervous troubles, more than we dream, are caused by this bad habit. The sitting position of the body should not be different from that of standing. Throw the hips well back as one sits down and place the feet square on the floor, knees about three inches apart.

Importance of Correct Sitting Positions

Although it is apparently not now regarded as bad form for a woman to cross one knee over the other, it is stated by physicians that this habit of position is responsible for many of the pelvic disorders to which so many women are subject, and our mothers would do well to go back to the old-fashioned training, and teach the girl that it is not well for her to adopt all of her brother's privileges. This position when taken by men does not so completely destroy the poise of the rest of the body as it does in women, and it is rare to see a woman adopt it without at the same time resting on her elbow, and so throwing her shoulders out of position or in some other way destroying the correct poise of the rest of the body.

The waist muscles should do their work when sitting as well as when standing, and we should especially train young people not to relax at the waist line, as this soon leads to a crowding of the stomach and other organs and prevents their doing their work well. As so much of our time is spent in sitting positions we should be careful to guard against bad habits, nor must we forget that the habits of adolescence cling through life. Muscles are plastic and physical habits are easily formed which later may require a great deal of care, perhaps suffering or humiliation, before they can be broken.

Positions while Sleeping

It is not out of place here to touch upon the matter of positions while sleeping. The very little child may with advantage be put to sleep on his stomach. This change will often relieve pain caused by gas in the stomach and seems to be soothing and restful in many ways. Many older people cling to this as the most comfortable position for sleeping. The old superstition that the child who slept with his arms over his head was about to be overtaken by disease no longer troubles us, but we do realize that such position as this places undue strain upon the heart as well as the muscles, which should be relaxed as far as possible. Indeed, complete relaxation is the secret of restful sleep, and any position which holds a muscle taut and rigid prevents one from getting the best from sleep.

Often such a strained position may be held to account for disturbing dreams and nightmares which so often trouble us. The child who cries aloud in his sleep may be moved into a more comfortable position and will cease crying, often without awakening, when the strain is relieved.

Heavy pillows under the shoulders for eight hours may tend to make one round-shouldered as well as to restrict breathing. Indeed, if one can accustom oneself to sleeping without a pillow at all this is considered to be most healthful. We should be especially careful about pillows for children. We are very likely to adopt one size of pillow for the household, use it without regard for the little people, and then wonder that we have such difficulty during their waking hours in inducing them to sit and stand erect.

This question of posture should receive the mother's attention during all the growing years of the child and should be taken into consideration in the regular physical examinations. If the child is unable to stand or sit correctly, find out the reason why, and correct the weakness.

THE HYGIENE OF EXERCISE

BY

ANNA L. MUZZEY

THE keynote of this age is efficiency. Experts are trained to study business systems in order to see what specific methods may be applied to increase the output of a concern, to increase the speed of the worker or of the machinery, or to decrease the waste in time and material. It is only by thus challenging, so to speak, the various departments which go to make up a composite business system that an estimate can be made as to whether adequate returns are being secured from their maintenance.

Basic Truths That Are Shaping Our Educational Ideals

A still more fundamental need is efficiency of the human organism itself, for on its mental and physical powers depend all other progresses in civilization. The experts we engage to study how we may secure this efficiency of physique are the physiologists, the anatomists, the psychologists, and, when the mechanism needs repair, the physicians and surgeons. But we are learning that the greatest gain toward efficiency is prevention and not cure; prevention, which saves the organism from the ravages of disease and conserves the energies for positive, constructive utility, rather than cure, which expends these energies in overcoming destructive agents that have crept into the system.

Among the most potent factors which bring about and maintain physical efficiency is exercise. Contrary to a popular idea often encountered, exercise is a tremendous constructive and conservative process, when rightly taken. It seems hardly necessary to repeat the well-known axiom that "function makes structure"; that muscular tissue being made for exercise has also been evolved by exercise; and that the law of normal life points back to the active use of this muscular apparatus for the preservation of the health and vigor of mind and body.

These are the large truths that are shaping our most advanced ideals in education and guiding many of our social efforts, especially in behalf of children; they are also the foundations of our physical training.

The Lymph and Its Function

Let us see in what way this function, exercise, is constructive—not merely in regard to increasing the bulk of muscular fibers, but in maintaining efficiency in the human organism as a whole. Exercise is a most important mechanical factor in the process of the nutrition of tissues through its effects on the circulation of the blood and lymph, and thus on the distribution of new food material and the removal of waste products of cell activity. To appreciate this influence, we must briefly review some points of physiology.

The lymph is an exudation through the thin walls of the capillary blood vessels, which carries nutriment to the tissue elements, and also receives waste products from them. Thus the lymph comes into closer relationship with the cells of our tissues than the blood does, and it is especially important that this lymph should be kept in an active condition.

It has been demonstrated by experiments that this flow of lymph around and among the tissue elements and thence into the great veins carrying impure blood to the heart is greatly in-

creased by exercise—is even to some extent dependent for its propulsion on the mechanical pressure exerted by the contracting muscles. This interchange of old and new material through the mediation of the lymph is the basis of healthy growth of cell tissue.

Thus we see how the condition of the muscle is improved when, by constant contraction and stretching, such as occur during exercise, there is a continual renovation of the blood and lymph supply to the cells.

What Exercise Does for the Vital Processes—Digestion as an Example

Let us now consider what exercise does for the tissues as we find them combined into the organs and systems of our body. Physiologists point out the importance of "a rapid and economical" consummation of the varied vital processes, such as the chemical changes of digestion, secretion, absorption, elimination, maintenance of body heat, etc., under control of a well-balanced nervous system.

All this can be accomplished efficiently only when, under the influence of exercise, the muscular and nervous mechanisms constituting and controlling these systems are kept vigorous, and the blood and lymph supply kept active and purified. Over some of our vital processes, while they are, indeed, "involuntary," we can nevertheless exert a definite and beneficial influence.

The digestive process is one such example. By judicious exercise we can invigorate the involuntary muscular action (peristalsis) of the intestines which serves to propel the food mass along, and therefore lessen the chance of effete matter interfering with the delicate assimilative process. By exercise also, combined with proper diet, we can largely eradicate that foe to health, constipation; for the great danger of absorption of poisons (toxins) in the lower intestinal tract is overcome by rapid elimination incited by exercise.

Voluntary Activity Stimulates Respiration and Circulation

Respiration and circulation are other involuntary vital processes directly influenced by voluntary activity. We all know that a brisk run in the open air makes us breathe deeper, and sends the blood, with a sense of warmth and vitality, to the extremities. Physiology tells us why this is so: exercise automatically creates the necessity for deep breathing, because during activity the cells call for more oxygen to complete the transformation of food into "energy," and this call must be supplied via the blood, by a greater intake of oxygen into the lungs.

This consumption of oxygen in the cells, like any other process of burning, produces heat which is quickly distributed by the circulation to various parts of the body, and which helps to maintain that uniform temperature, 98.6°, so necessary for health and comfort. For these reasons, muscular exercise has been likened to putting on the draughts of the furnace, in that it raises the temperature of the muscular tissue, and at the same time it also shakes out the ashes and the clinkers.

Functions Aided

A rapid distribution of the blood also prevents and relieves congestion in various organs or localities where, for reasons of weakness, long hours of standing or sitting, etc., the venous blood is likely to stagnate and cause disorders of inflammation, dullness, or oppression. The natural eliminating functions of the skin, the lungs, and the kidneys are aided by exercise in such a way that their labor is more evenly distributed; no one system is taxed to do the work of others, and the functions themselves are accomplished more thoroughly.

The Heart, Our Most Important Muscle—Care to Be Taken of It

One of the most important constructive processes of exercise is its effect on the heart as a muscle, and therefore as an organ to be improved in vigor and soundness by suitable activity. Just as lack of exercise causes the muscles of the back to grow weak, with an accompanying aversion toward exertion and agility, so lack of rational exercise reduces the muscular power of the heart and produces a feeling of disinclination to physical effort.

It almost seems as if these weakened, untrained muscles possessed a consciousness which shrank from effort with a sense of their own unfitness, while the strong body and heart relied on their tested powers with a feeling of abundant security. For the average person who does not wish to develop into an athlete or to degenerate into a feeble, inert condition, a relatively strong heart on which to rely for extra demands in case of emergency, that is, possessing latent strength, is the basis of vitality and stamina.

Therefore, in all exercise care must be taken not to strain and injure the heart. In childhood and even in youth, temporary enlargement of the heart to accommodate the exertions of natural play is usually not injurious, for the

heart is then elastic and resumes readily its normal size. A continued strain, however, which demands long and sustained effort does grave damage to the youthful heart. Such a strain is often put on younger boys who compete in athletics, football, etc., with college youths. In mature life, again, when the tissues have lost their elasticity, severe and especially sudden strain upon the heart and arteries through violent exercise is highly injurious.

Exercise Is a Conservative Force

Exercise, then, besides its function as a constructive agent, is a conservative force, keeping the body in a condition of efficiency. The trained gymnast, performing with ease and grace a feat on the apparatus, illustrates a lesson on the conservation of energy through expenditure. No unnecessary mental or physical force is wasted, and thereby the organism secures the most beneficial results from the exercise. Somewhat in the same way the various bodily organs, trained by proper exercise, accomplish their functions with least friction and fatigue.

This training to resist fatigue is a most important factor in the hygiene of exercise. While over-use of muscles causes an accumulation of fatigue toxins, or poisons in the blood—that is, waste products that have not been removed fast enough—the well-trained system can be relied on to withstand these toxic effects, having gradually accustomed itself to handling a greater and greater amount of them. Thus, while exercise should stop before the fatigue-point is reached, training will tend to put off that point farther and farther. Exercise, therefore, is a most valuable factor in bringing out the latent powers of the organism and in training them so that no energy is expended over and above the amount required for the work at hand.

Exercise Makes for Efficiency of Nerves and Brain

The effects of exercise on the nervous system and the close relationship of mental and physical processes form a whole study in themselves. But what has been said as to the hygienic effects of exercise on other systems applies equally well to the nervous mechanism.

It has been undoubtedly proved that muscular exercise is beneficial to the best productive activity of the mind, especially if that mental labor is to be successfully continued for a lifetime. We read of the prodigious labors of Balzac, who would write with feverish intensity for days, hardly stopping to eat or sleep; but we read the sequel also of his complete exhaustion and long periods of depression, until finally the balance of loss could not be restored, and he died a comparatively young man of fifty-one. In contrast to him, we see a man of keen and active mentality, like Gladstone, rational in his habits of life, taking time for mental and physical relaxation through exercise, and attaining the age of eighty-nine.

Out-of-Doors Recreation Best

For the great majority of brain workers—seldom gifted with the physique of an Edison or with his genius for concentrated labor—mental relaxation in the form of play or sports, and conducted in the open air, is the one best tonic. The state of mind which accompanies such happy, joyous exercise as a game of ball, a cross-country walk, or an exhilarating swim is one of the strongest points in its favor, for a contented nervous system is a stimulant to good work in the other departments of the body.

Exercise Must Be Wisely Adapted to the Individual

A complete study of the hygiene of exercise would include a careful consideration of the kind and amount of exercise suitable for different ages, sexes, types, and conditions of physique; but such an exhaustive study is outside the scope of this article. It must be understood, however, from the principles of the physiology of exercise which have been explained here, that the *adaptive* character of exercise has largely to do with its success in bringing about the desired results of health, and strong, vital resistance to both fatigue and disease.

Distinction must be made between those cases which, though not diseased, are weakened through negligence and in a state of lassitude, and those persons where deterioration is due to disease-producing causes. Other important points to consider are the best time for exercise, varying according to a person's occupation, the clothing worn, and especially the ventilation and cleanliness of the room or gymnasium when exercise must be confined to indoor practice.

Exercise Should Be Specially Directed at the Large Muscles

The main point to be emphasized is that, unless a special treatment is required for medical reasons, exercise should bring into action as much of the whole organism as possible, and should be particularly directed towards the groups of large muscles. These are generally the muscles which maintain the upright posture of the body, keep in position, protect, and con-

trol the vital organs, and overlie the great veins on which mechanical pressure by muscular contraction is so important as an aid to venous circulation. It is for this reason that, though many persons spend hours a day in what they consider activity, such labor cannot be called exercise in the true sense, especially since it is too often performed in bad air, laden with dust.

Small Muscles Over-fatigued

In all those occupations wherein labor has been subdivided and differentiated so that it calls for the use of small groups of muscles almost to the point of exhaustion, we find a reflex fatigue devitalizing the whole system, mental and physical. Such are the conditions that prevail largely in factories, mills, department stores, and to a great extent in domestic work, especially in restaurants and great hotel kitchens.

One of the problems of modern industrial life is how to get the right kind of exercise to those already fatigued by the wrong kind of activity. For this reason many progressive concerns have short periods of gymnastics for the girls, general exercises planned to counteract local fatigue and to relieve cramped postures, etc.

The Cry for Breathing Spaces and Open Places

It is not a fad, this cry for open places and breathing spaces, for outdoor schools, playgrounds, and athletic fields. It is the gasping cry of the air-starved lungs battling against tuberculosis; the insistent demands of the insurgent energies of youth seeking a normal active outlet; it is the pathetic appeal of the crowded little children who do not know where or how to play without trespassing on the closely guarded rights and properties of others.

But however we modify and adapt our theories of exercise in their specific applications, the great principle remains, that exercise, like food and sleep, is a fundamental need of the physical organism, and is one of nature's chief preservers and restorers.

Practical Suggestions for the Average Man or Woman concerning Hygienic Exercise

Do not be misled by the idea that "exercise" must necessarily be something apart from the rational course of one's daily life, requiring special costume, use of apparatus, etc. There are valuable ways in which one's ordinary routine may be so modified and brought to bear on this important question of exercise that, by taking time and thought, positive good may be accomplished.

In Praise of Walking

One of the most obvious and at the same time most effective exercises is walking. If you are engaged in sedentary work, take the time and make the effort to walk, at least part of the way, to and from your business. Spend a couple of hours Sundays and holidays on a tramp.

Walk at a brisk pace. As compared with sitting, it increases the amount of air inspired in the ratio 1:3, because of the demand created for oxygen by muscular activity. Make it your business, like the successful department stores, to create a demand. Walking is also one of the most restful exercises for the nervous system, on account of its automatic, rhythmic coordination of movements. It is cheaper to wear out some shoe leather than to rust out your heart and muscles.

Benefits of a Regular "Drill"

But walking does not give a sufficient amount of exercise to the muscles of the back and shoulders, or to the muscles and organs of the abdomen. This is why we urge the value of a systematic "setting-up drill" of fifteen or twenty minutes every morning before breakfast or every night before retiring, for the busy man or woman of sedentary occupation who cannot take regular exercise in a gymnasium under a competent instructor.

It is now recognized by the best medical authorities that the vigor and number of the white corpuscles in the blood are most important for our vital resistance to disease. Moreover, by actual experiment it has been proved that these white cells decrease in number and activity in the blood of those who take little or no exercise. Therefore, this daily morning or evening exercise—taken under approximately open-air conditions—will give the white corpuscles of the blood a fighting edge; "colds" and catarrhs will be less frequent, and also other more serious diseases.

Exercise of this kind can also be made especially useful for the purpose of rectifying slight postural defects of sitting, standing or walking—defects which in themselves are no small hindrances to efficient health. It would be well to ask some experienced physical director to show you how to take this setting-up drill most efficiently. Especial care should be taken if there be any weakness of the heart.

If it be one's habit to take a cool or a cold morning bath, the exercising should come first, in order to avoid the too sudden increase of the

heart's action induced by the shock of the cold water.

Remember that it is the regularity of the drill that counts.

Be as systematic with your exercise as you are with your meals.

The action of ascending stairs, like mountain-climbing, is a vigorous exercise, especially for the heart, and one which, when rightly done, with trunk erect, chest expanded, and a flexible play of the foot, is excellent in moderation. Be your own escalator.

Faddish or Irrational Exercise

Avoid "fads" as substitutes for real exercise. (Even fresh air and deep breathing, by themselves, are not enough.) There is no short cut to the "royal road to health" by the way of occasional bouts with a punching bag or patent exerciser. Exercise is a process, not an act, and like other important processes requires a steady motor power to run its machinery.

A most graphic description of the evils of irrational exercise, of increasing the formation of waste products (instead of eliminating them), is the following picture drawn by Dr. Woods Hutchinson: "What the average business-man or office-worker is doing when he rushes through his gymnasium cyclone-fashion, chins himself fifteen or twenty times, swings on the horizontal bar for five minutes, smashes the medicine ball back and forth, hammers himself purple in the face on the punching bag, runs ten times around the racing gallery, and takes a hot shower bath and a rub-down all in eighteen and a half minutes, is simply loading himself to the bursting point with the fatigue poisons of muscular effort and allowing no time for their elimination. He came to the gymnasium from his office with his blood loaded with the fatigue toxins of brain work. He adds to them an additional amount of the muscle fatigue poisons and goes on his way rejoicing, both barrels loaded with carbon dioxide, instead of one as before."

Avoid Real Fatigue

Leave your mental problems behind when you exercise; give your mind up to the enjoyment of physical activity, and you will find that many of your worries will be washed away like other useless wastes, by the renewed blood supply to the brain.

Learn to recognize the signs of approaching fatigue, and never exercise after well-marked symptoms have developed, for it is most difficult for the organism to recover from exhaustion, while ordinary "tired feelings" are rapidly repaired. In such a state of lowered vitality induced by fatigue, the body is a prey to disease, bad temper, and a variety of physical and mental disorders.

It is well recognized that, after a hearty meal, vigorous exercise, as well as severe mental exertion, should be avoided. As the signs say of the grass, "Give your stomach a chance."

Patronize a swimming tank, preferably the ocean.

Avail yourselves of every opportunity to skate —outdoors if possible, in a rink if necessary.

It is better to play a game of ball than to watch one.

President G. Stanley Hall says: "Flabby muscle is the chasm between *willing* and *doing*." Bridge the chasm.

HOW TO DEAL WITH EMERGENCIES

BY

DR. THERON W. KILMER

THE following are some of the most common emergencies with which the young mother or nurse will have to deal. I do not mean to detract from the importance of summoning your physician at once whenever any of the majority of these conditions arise; nor do I mean for you to bother your physician every time the baby has a slight attack of colic. The remedies given are such as almost every mother has at her command, and they will not interfere with any treatment your physician may advise upon his arrival.

Colic.—Place 2 or 3 soda-mint granules in baby's mouth, or dissolve from 10 to 15 of the granules in 6 ounces of hot water and give the baby 1 or 2 ounces of the soda-mint water thus made. Let the baby lie against a hot-water bag, the bag being against his abdomen; see that the bag is well protected by flannel so as not to burn the baby. Hold the baby against your shoulder and rub his back; gas will presently pass up from his stomach and possibly from his bowels through the rectum, and the little "bubble" which caused

his colic will have disappeared. In habitual colic the food is probably too rich, especially in the proteids (curd).

Convulsions.—Place the baby immediately in a hot bath of 110 degrees F. Rub his legs, arms, and body, and keep ice on his head. Give him castor-oil (under 6 months, ½ teaspoonful; over 6 months, 1 teaspoonful) by mouth if he can swallow. Give him an injection of warm, soapy water. Wrap him in warm blankets and send at once for your physician.

Fever.—Dilute the milk one-half with water. Keep the baby in a cool, well-ventilated room away from other children.

Earache.—Place a drop or two of warm olive-oil or glycerine in baby's ear. Place a hot cloth or hot-water bag to his ear; be very careful, in using a hot-water bag, not to burn the baby's skin. Send for your physician.

Nosebleed.—Set the child up straight in a chair. Hold a small piece of ice wrapped in a handkerchief on the bridge of baby's nose for a few minutes. Try to quiet his fears. Pinch his nose with your thumb and finger.

Foreign Body in the Nose.—Close one of the child's nostrils (the one *not* containing the foreign body), and try to make him blow his nose. Do not try to pick out the foreign body with a pin, hairpin, etc., as you will push it farther up his nose.

Foreign Body in the Eye.—Use a solution of boric acid (see "Eyes"), and with a piece of absorbent cotton wet with this solution allow the solution to trickle into the corner of baby's eye. If this does not suffice to remove the body, take a small, round piece of wood or metal (a penholder or small pencil) and roll the upper eyelid over it; the offending particle will often be found on the inside of this upper eyelid, from which it may be removed with a small piece of absorbent cotton wet with the boric acid solution.

Foreign Bodies Swallowed.—Babies often swallow buttons, pieces of straps from their carriages, and all sorts of foreign bodies. Unless the object swallowed is sharp, or has sharp corners, no attention need be paid to the baby, as the object swallowed will pass out the usual way with the stools. If the object is sharp do not give castor-oil nor any physic, as that only increases the danger. Give bread or crackers, as they will form about the object in the stomach or intestine and prevent its injuring the child during its passage through the body.

Choking.—Put your finger in baby's throat and see if you cannot pull up the offending substance; if you cannot pull it up, ***push it down*** into his stomach (if it is a piece of bread or meat). Slap him on the back. Hold his head down and squeeze the sides of his body together.

Chill.—Place the child in bed and cover him up warm. Have hot-water bags or bottles placed at his feet and sides. Young infants do not have chills.

Bleeding from the Umbilical Cord.—Tie a piece of fine tape around the cord between the baby's body and the bleeding point. If the navel bleeds after the cord has dropped off, place your finger over the bleeding point and maintain a steady pressure until medical aid arrives.

Wounds.—Remove all clothing from the vicinity of the wound. Wash the wound with pure warm water. If there is great bleeding, tie a tight bandage between the wound and the heart. If the wound is at a place where you cannot tie a bandage (on chest or head), fold a handkerchief into a wad and keep a firm pressure directly on the bleeding point. After the bleeding has stopped, place a compress on the wound and apply a firm bandage.

Burns.—Apply a cloth smeared with vaseline to the burned area and apply a loose bandage. If the part is only *scalded*, apply a paste made with cooking soda (bicarbonate of soda) and water.

Foreign Bodies in the Ear.—Bend the ear so that it projects straight out from the head and turn the child on that side. By this procedure the foreign body may roll out.

Vomiting.—Keep all food from the child for some hours. Then reduce the strength of food. Let the baby suck a small piece of ice wrapped in a handkerchief. Babies will often, in perfect health, regurgitate a small part of their feeding, and this regurgitation must not be confounded with the term "vomiting." Severe diseases are often ushered in by vomiting.

Sprain.—A sprain of a joint is the result of a sudden wrenching of the ligaments which ordinarily keep the bones more or less in apposition, the ligaments being a little torn or otherwise damaged in the process. The symptoms closely resemble those of a fracture or dislocation, but they are less severe. There is great pain, and disability to use the joint. Swelling soon commences, and may become extreme. After a while the part becomes discolored, owing to blood-vessels being torn round the joint. From the moment such an injury occurs the joint should not be moved in any way. As soon as possible a bandage should be firmly applied, and, if possible, some makeshift splint should be employed until the patient is safely in bed. Complete rest in bed in the case of a sprained ankle or knee is absolutely necessary, and the rest

should be continued until all pain and swelling have disappeared. In the case of a sprain of the wrist, elbow, or shoulder, rest in bed is not, of course, necessary, but the arm should be worn in a sling and the affected limb should be firmly bandaged, as in the case of the leg. After a while—that is to say, in a week or two—the joint should be gently manipulated, so as to prevent stiffness. In all cases of bad sprains, however, a doctor should be consulted as soon as possible.

Examination of the Throat.—In an emergency, a teaspoon or the handle of a tablespoon may be used to depress the tongue; after an examination of the throat, the spoon should be boiled before using again. Better than a spoon are the small wooden spatulas sold by druggists, which may be burned after use.

CARING FOR SICK CHILDREN

BY

DR. HARRY ROBERTS

A Few Nursing Hints

ANYONE who undertakes the nursing and care of sick persons, whether children or adults, will find herself called upon to perform three distinct duties. First, she will have to administer or apply certain medicines or local applications ordered by the doctor; second, she will be called upon to attend to the patient and his ordinary bodily wants, and to maintain the sick-room in a satisfactory state of freshness and warmth; and third, she will need to observe carefully any changes in the state of the patient, knowledge of which may be of help to the doctor or to those ultimately responsible. To take the last duty first, the nurse should remember that the doctor sees the patient for only a few minutes out of the twenty-four hours, and therefore cannot possibly observe directly all the changes that occur in the course of the day. The nurse can here be of the greatest help to him, and therefore to the patient. She can tell him whether the patient is usually bright and cheerful, or depressed, or apathetic; whether the patient has had a good night or a bad one; how much nourishment has been taken; whether there have been any such symptoms as diarrhœa, cough, expectoration, pain, or shortness of breath, or any appearance of rash or eruption. Three things in particular a competent nurse should specially note, as a record of their variations is of the greatest help to the doctor: the frequency of the respiration, the frequency of the pulse, and the temperature. The temperature should be tested and recorded at least twice a day during illness.

Respiration.—The number of respirations per minute can generally be counted by watching the movements of the chest, and checking the time by the second-hand of a watch. When the breathing is shallow it may not be easy to count the respirations by this method, but there is then little difficulty in feeling the movement of the chest by placing the hand lightly on it. In a healthy adult the average number of respirations per minute is about seventeen, and in a healthy child from twenty to twenty-five. In disease, however, the number of respirations per minute may be considerably increased, to thirty, fifty, or even eighty. The nurse should note not only the frequency of respiration, but also any peculiarity in its character, such as wheezing, irregularity, or difficulty.

Pulse.—The pulse is usually felt at the wrist just within the muscle on the thumb side of the arm. It may, however, be felt in various other parts of the body, such as the temple or the upper part of the thigh. The middle finger or the forefinger should be employed in feeling the pulse. The pulsation which is felt is really the impulse caused by the contraction of the heart, conveyed along the arteries with the assistance of the elastic and muscular walls of these vessels. In a healthy adult the pulse usually beats about seventy-two times a minute when the person is at rest, but in children the pulse beats from eighty to a hundred-and-twenty times a minute in health. In feverish conditions the pulse rate may increase to a hundred-and-twenty, a hundred-and-fifty, or even more, beats per minute. Of course, when a doctor feels the pulse, he is concerned with many other points besides the frequency of its beat. He notes its regularity or otherwise, its hardness, fulness, and many other qualities. This, however, requires a degree of skill which the nurse is not called upon to attain. It should be remembered that comparatively slight causes will often occasion a very considerable increase in the rapidity of the pulse.

Thus, nervous excitement, indigestion, or physical exertion will often give rise to a degree of palpitation of the heart, and therefore to a rapidity of pulse, which seems alarming; but this is in reality not indicative of any diseased condition. It is, however, the nurse's place merely to record what she observes, and to leave it to the doctor to draw inferences from these observations. He will naturally have the experience and technical knowledge which alone enables one correctly to interpret the various physical signs.

Temperature.—The third special symptom which a nurse should observe is the temperature of the patient. For this purpose she will require a clinical thermometer. In using this thermometer it must be remembered that the mercury in it does not fall when exposed to cold, although it rises when heated, differing in this respect from an ordinary thermometer. The mercury must be lowered, when a fresh record is to be made, by shaking the thermometer with little sharp jerks in the hand until it is sufficiently low. This requires some knack, but it is easy when the knack has been acquired. The clinical thermometer has a much smaller range of recording power than the ordinary one, but the degrees registered are also far more delicate, and the smaller range is accounted for by the fact that the temperature of the human body never rises above or falls below certain known limits, whether in health or disease. The ordinary clinical thermometer therefore registers from 95 degrees F. to 110 degrees F. The point marked on clinical thermometers as the normal temperature of the human body is 98.4 degrees F.

The temperature is taken by moving the arm away from the side, placing the bulb of the thermometer in the hollow of the armpit, and then replacing the arm, pressing it closely against the side. The length of time that the bulb should be left in position depends on the thermometer, some thermometers registering in thirty seconds, some in one minute, and some in three minutes. The length of time is usually stated on the stem of the thermometer. As a result of inflammation or other so-called febrile disturbance, the body temperature may be raised to a hundred degrees or higher. Even in severe cases the temperature does not often rise above 105 degrees, but in rare cases it may rise to 107 degrees or 108 degrees, or even higher. In some conditions, especially when the patient is recovering from a severe illness, the temperature, instead of rising, falls one or two degrees below the normal. For the purpose of recording the temperature of sick persons, special charts are often used. These are helpful in that they show at a glance the up-and-down movements of the temperature day by day.

The Management of the Sick-room

The principal requirements of a sick-room are cleanliness, proper ventilation, the maintenance of an even temperature, and a bright, cheerful appearance. In order to make the preservation of cleanliness as simple a matter as possible, unnecessary articles, especially those which are favorable to the accumulation of dust, should be removed. Thus a sick-room should never be furnished with a carpet; a polished floor, with one or two light rugs which can easily be taken out of the room and shaken each day, being equally comfortable-looking and far more hygienic. Heavy curtains should not be tolerated, though light, washable linen or cotton curtains are quite suitable. All unnecessary furniture should be removed, and what is left that which can be easily cleaned. Such a room may be kept clean and fairly free from dust by the skilful application of a damp cloth followed by a little wax-polishing every day. All bedding and bedclothes should be kept clean and thoroughly aired. Sheets and blankets should be frequently changed. All sanitary vessels should be removed from the bedroom and emptied as soon as they have been used, and under no circumstances should food of any kind be allowed to remain in the sick-room.

Fresh Air.—Not only should the walls, floor, and furniture of the sick-room be kept scrupulously clean, but, what is even more important, the air must also be kept clean and fresh. Provision must be made for the regular removal of the impure air which has already been breathed, and its replacement by pure air from outside. Except in very rare instances, fresh air, even though it be cold and damp, is far less injurious to a sick person than air which has become poisonous with exhalations from the human body. Unless specially-constructed ventilating apparatus has been provided, the best means for the introduction of fresh air into a room is by the widely-opened window. As a rule it is better to allow air to enter at the bottom of the window than at the top; in any case, steps may be taken by using screens to prevent any direct current or draught of air from coming directly on the patient. If it is possible also to have the top of the window open, this will provide most efficiently for the escape of bad air, which, being heated by the body, naturally rises at first to the top of the room. An open fireplace, with or without a fire burning, also provides an excellent means for the

exit of air. Should it be absolutely necessary to keep the temperature of the room high, the widely-open window may, in very cold weather, be found undesirable. In such a case a good deal of ventilation may be provided by raising the lower sash of the windows about two inches and filling up the spaces left at the bottom by means of blocks of wood which exactly fit. Air thus enters the room in an upward direction through the space formed between the upper and lower sashes.

Temperature.—In order to maintain an even temperature, a fire is usually required. A thermometer should be hung in some part of the room where it is not exposed to the direct heat of the fire, the direct rays of the sun, or the direct current of air coming in from outside. In the ordinary way a good temperature for a sick-room is 55 degrees to 60 degrees. By regulating the amount of fire it is usually possible to keep the temperature within these limits. In order to avoid the noise occasioned by throwing coal carelessly on the fire it is well to have only large lumps or nuggets in the box, and to place these on the fire with the hand, a pair of old gloves being kept ready for the purpose.

Sunshine.—In nearly every form of sickness it is almost impossible to have too much sunshine and light in the sick-room. Even where for any reason the patient cannot bear direct sunlight on his face it is better to protect him by means of a screen than to draw the blinds, or in any other way to exclude sunshine from the room. It should be unnecessary to dwell on the importance of keeping the body of the sick child scrupulously clean. At any rate, once a day the whole surface of the body should be washed with warm water and soap. In some cases, of course, a proper bath may be given, but where this is impracticable the body may be washed bit by bit, each part being dried and re-covered before the next part is uncovered and proceeded with. Nor should the teeth and hair be forgotten. At least twice a day the teeth should be carefully brushed in an up-and-down direction, some good antiseptic tooth-paste or tooth-powder being employed. The clothing of the sick child should frequently be changed, and should consist of a long night-dress reaching well below the feet, or of pajamas. The materials, in either case, should be of wool or cellular fabric.

Food.—The feeding of the invalid is a matter in which the nurse can do much to hasten or retard his recovery. As to the actual food to be given, the doctor's orders must be strictly followed; but by serving it in a dainty way in small quantities, in tempting form, and at well-chosen intervals, one nurse will induce a patient to take, and, what is more important, to digest and assimilate, many times as much nourishment as will a careless and tactless one. In all illnesses the nurse should keep an exact written record of all food and drink taken by the patient, noting both the hour and the amount.

Giving Medicines to a Child.—In giving medicines to a sick child one of the silliest, though, unfortunately, one of the commonest, things done is to tell the child that the nauseous dose which he is about to take is really sweet and pleasant. Everything may well be done to make the dose as palatable or as little unpleasant as possible, but nothing is gained by telling these silly lies to children. The child at once discovers the untruthfulness, and for the future loses all confidence in statements made by the nurse. Most medicines may be made to taste less unpleasant if a small quantity of milk be given immediately before and immediately afterwards. The milk seems to form a thin covering over the lining of the mouth and so protects the nerves of taste from direct contact with the drug. If the nose is held, and the medicine taken "in one breath," a drink of milk being swallowed before another breath is taken, most drugs can hardly be tasted at all. If any form of candy or other delicacy is specially liked by the child, it may sometimes be offered as a reward.

Emetics for Children.—The safest emetic for young children is powdered ipecac, which may be kept in the form of five-grain tabloids. For infants and very young children five grains may be given every ten minutes until vomiting has been produced. In the case of older children, ten-grain doses may be given. In whooping-cough half a teaspoonful of alum in a tablespoonful of honey is a useful emetic. If neither of these substances is available, a teaspoonful of mustard in half a tumbler of warm water may be given to a child from four to ten years of age.

Aperients for Children.—The use of drugs for very young children is, unfortunately, very common, although a change for the better is gradually becoming noticeable. One of the commonest drugs administered, even to tiny babies, is castor-oil, and there are few which are more injurious. It is responsible for more cases of chronic infantile constipation than any other drug. Its action is both aperient and constipating, the first effect following soon after its administration, and the constipation lasting for some time after. This effect is seen clearly when a large dose is given, but is even more marked when a small dose of, say, four or five minims is given two or three times a day in cases of apparently

habitual constipation, when it has not only no aperient action at all, but makes the infant extremely costive. There is often a difficulty in getting children, especially if they are at all "spoilt," to take purgative medicines, although these are frequently necessary in childhood. In the treatment of chronic constipation this is often a great trouble. A good expedient where the little patient needs for a time some small aperient dose daily, is to infuse a teaspoonful of senna leaves, tied up in a muslin bag, in the water in which a pound of prunes is being stewed. The senna leaves should remain in it about an hour, and they will be found to have altered the flavor of the prunes but slightly, while considerably adding to their purgative qualities.

Examining a Child's Throat

In cases of sore throat in children it is always necessary to obtain a good view of the interior of the throat, as thorough examination is necessary to determine the probable cause and treatment of the condition. Such a view is often difficult to obtain, especially in the case of children too young to understand what is wanted of them, or fractious ones, who will not be examined. In such cases the parent or nurse should hold the child in her lap, the head being held firmly against the right shoulder by means of the right arm, which should embrace the head with the hand on the forehead. The child should face a good light, and its arms and legs should be kept still by the nurse's left hand and arm. The observer should sit with his back to the light, facing the nurse and at the same level. He should turn the child's head by holding it with his left hand at the back of the neck, his thumb being in the right ear. He should then gently insert a spatula, or the warmed handle of a teaspoon, with the right hand, the ring finger of which at the same time pulls the lower lip over the left side of the mouth inwards over the gums or teeth. This will open the mouth. The spatula should gently press down the tongue, but should touch no other part of the mouth or throat, or cough and perhaps sickness may be caused.

A Sick Child's Toilet

Every child who is confined to its bed should have a thorough and careful toilet performed daily; and the care and thoroughness with which this is carried out count for much in the child's comfort and progress. First of all, the entire body must be washed once, if not twice, daily, and this can be done while the child lies in bed, which, in certain cases, is absolutely necessary. A dry blanket should be rolled up for half its width, the child turned on its side, and the blanket placed close against its back. The child is then turned on its other side, thus placing it upon the blanket, the other portion of which is then unrolled. The body is then washed all over the uppermost side, dried thoroughly, and turned over on the other side, when the process is repeated. The folds of skin in the armpits, elbows, knees, thighs, and all surfaces liable to friction should be attended to with particular care, as washing and thorough drying are the great preventives of bed sores. When the whole body has been carefully washed the blanket may be gently withdrawn, leaving the bed clean and dry. Should any signs of redness or soreness be seen, or even suspected, on any surfaces in contact with the bed, those surfaces should be rubbed with a little spirits of wine, and then dusted with talcum-powder. The teeth and mouth must be carefully washed out, as great discomfort is caused by neglect of teeth in illness; if the child is too young to have its teeth brushed, its mouth should be wiped with borax and glycerine on a soft linen rag. The hair should be gently brushed out, and, if long, divided into two strands and plaited on either side of the head, this keeping the hair out of the child's way and preventing tangles.

A Bran Bath

A bath which is very useful in many diseases of infancy, especially in eczema and other diseases of the skin, is prepared as follows: A pint of bran is placed in a small muslin bag and put into a quart of water. This should be boiled for an hour, or a little longer, and then thoroughly squeezed out in the water. The bath should then be prepared with four gallons of warm water, which should, of course, be carefully tested with the elbow before putting the child into it, and the bran water already poured off added to it.

Poultices, etc.

Linseed Meal Poultice.—Linseed meal poultices should be made quickly, and therefore all the materials and appliances required should be got together before the process is begun. There will be required a kettle of boiling water, a basin in which the poultice is to be mixed, a spoon for stirring it, a piece of soft cotton or linen about two inches longer and wider than the size of the poultice required, and linseed meal. Some boiling water being placed in the basin, the linseed meal is to be steadily dropped from the hand into the water, the mixture being continually stirred the while. Meal is to be added until the

mixture is of the consistency of thick paste. This is at once to be spread on the piece of linen, the surface smoothed by means of the spoon dipped into hot water, and the edges of the linen folded in over it about half an inch on all sides. The poultice should be, in the case of a child, about half an inch in thickness, except when placed on the chest, in which case it should not be thicker than a quarter of an inch. The linseed meal employed is either in the form of powder obtained by grinding oil cakes or it may be what is known as crushed linseed. The latter, if it can be obtained quite fresh, is the better, as it is softer and more oily, but it does not keep so well, and soon turns rancid. In order to retain the warmth as long as possible it is as well to cover the poultice with a piece of waterproof material, such as oiled silk, and outside this to arrange a layer of wadding or cotton-wool.

Bread Poultice.—Bread poultices are employed for much the same purposes as linseed poultices, but they are usually used only when a small poultice is required. Boiling water is placed in a basin and powdered stale bread-crumbs stirred into it. The basin should then be stood in another large basin of boiling water for about five minutes. The bread is then to be spread after the manner of a linseed poultice.

Starch Poultice.—Mix some powdered starch with cold water and then boil it for a few minutes, stirring the while, until it forms a thickish paste. Like the two previous poultices, it should then be spread upon linen, and applied directly to the skin. In all cases the heat of a poultice should be tested against the nurse's face before being applied to the patient, as serious burns are sometimes produced through neglect of this precaution.

Mustard Poultice.—Mustard poultices are sometimes employed to set up irritation on the surface of the body with a view to relieving congestion of deeper parts. Various internal inflammations and pains are certainly much relieved in this way. A mustard poultice may be made in either of several ways. In any case it consists of a linseed poultice in which a certain amount of mustard has been incorporated. One way is to make a linseed poultice as already described, and then to add the mustard and thoroughly stir it in. Another way is to mix the mustard first with a little cold water, and then to add the boiling water, adding the linseed meal to this as in making an ordinary linseed poultice. The proportion of mustard to linseed meal must vary with the age of the patient. In the case of adults one part of mustard may be mixed with three parts of linseed meal, but in the case of babies one part of mustard to five parts of linseed meal is quite strong enough. As a rule a mustard poultice should not be kept on for more than an hour or so.

Mustard Plaster.—Mustard plasters are much more active in their effect than mustard poultices. They are made by mixing mustard as for the table, and then spreading it to the thickness of the tenth of an inch either on tissue paper or thin, soft linen, the edges of which should be turned in to prevent the escape of the mustard at the sides. Mustard plasters as a rule should not be kept on for longer than fifteen minutes, and it is not commonly desirable that more than a small portion of the surface should be treated at one time. A plaster larger than four or five inches square should seldom be employed.

Fomentations, and How to Apply Them.—Various forms of inflammation need the application of hot fomentations. The simplest way of preparing fomentations is to take a piece of boracic lint or flannel, fold it so that it is of four thicknesses, the size of the folded piece being that of the surface which is to be covered, and lay it in the center of a clean towel. Let this towel lie across an empty basin, pour boiling water over it, and then twist the towel so as to squeeze most of the water out of the lint. The towel should then be opened and the hot lint directly applied to the patient's skin. It should be at once covered with a piece of oiled silk, and over this should be laid a thick layer of cotton-wool or wadding, the whole being kept in place by a bandage. Fomentations need to be replaced about every half-hour, as they quickly lose their heat.

To Make Turpentine Applications.—A piece of flannel is taken of such a size that when folded four thick it will cover the desired surface. This folded flannel is then placed in the center of a towel, which is to be laid across a basin, boiling water is then to be poured over the flannel, and the two ends of the towel are to be twisted in opposite directions so as to squeeze out most of the water from the flannel. A little turpentine—about half a teaspoonful to the square foot—is then evenly sprinkled over the surface of the four-fold flannel, and this is at once applied to the skin. It should not remain on for more than about an hour. The action is very similar to that of a mustard poultice or plaster.

To Apply Dry Heat.—In certain forms of inflammation, as well as in certain cases accompanied with pain, the application of dry heat is

indicated. This is also sometimes required in cases of chill or shock. Various methods are employed. A hot-water bottle, surrounded by flannel, or a hot brick treated in the same way, is perhaps the simplest of these methods, but for special purposes small bags filled with salt or sand previously heated in an oven are more convenient. In these cases, as in the case of poultices, the heat should be tested against the nurse's cheek before application to the patient.

To Apply Cold.—In the treatment of pneumonia and various other diseases it is sometimes necessary to apply cold to the surface of the body, either to relieve pain, to modify the inflammatory process, or to lower the general body temperature. In some cases this is best effected by plunging the patient into a tepid bath, but this should never be done except by the direction of the doctor, the exact temperature named by him being strictly observed. Another method is to sponge the chest or the entire surface of the body with cold or tepid water. In this case a waterproof sheet covered by a blanket should be arranged on the bed under the patient. The patient should be covered with another blanket, and this should not be removed until everything is ready for the sponging. It is generally as well to leave the patient undried for about a couple of minutes, so as to allow the temperature to be still further lowered by the evaporation of the water from the surface of the body. Instead of cold sponging, another possible method is to arrange the waterproof sheet and blanket as before, and then, lifting off the top blanket, to wrap the patient entirely in a sheet which has just been wrung out in cold water. The top blanket is then again placed over the patient. The sheet may be changed in five minutes, and the process may be repeated as often as the doctor thinks necessary. Finally, the patient should be thoroughly dried, and the bed remade.

Cloths wrung out of cold water may be applied to any part of the body without dealing with the whole surface, in the manner above described. These cloths may be changed as fast as they begin to get warm. A greater degree of cold can be produced by the application of water-proof bags containing broken ice. Special rubber bags adapted to application to various parts of the body can be obtained for this purpose. The ice is best kept in a large block until required for use, and the vessel containing it should be surrounded by thick layers of flannel or wadding, in order to protect it from outside heat. The lumps are best broken up with the aid of a very fine brad-awl and a hammer. If these are not at hand a strong needle will answer perfectly well.

CHILDREN'S DISEASES

BY

DR. THERON W. KILMER AND DR. HARRY ROBERTS

Infectious Febrile Diseases

Children's Feverish Attacks.—Many children are liable to sudden attacks of feverishness in which, without any obvious cause, the temperature rises to an alarming extent, returning as suddenly to the normal after an interval varying from a few hours to a few days. In many cases no clue is ever obtained as to the cause of the attack. In certain cases the high temperature may last for some weeks, though in a less acute form, rising in the evening and falling to normal in the morning. Although such attacks may occur without any serious results it is hardly necessary to point out that in cases of sudden rise of temperature in children no effort should be spared to find out the cause. High temperature is one of the first symptoms of many serious diseases, and on the rise being noticed the child should be stripped and carefully examined for other signs of illness. Its chest should be examined for any sign of pneumonia, and its skin and throat carefully scrutinized in a good light for rashes or inflammation. Inquiries should be made as to what food the child has taken, as acute indigestion is a common cause of a rise in the temperature. In young children —that is to say, those under three years of age— convulsions combined with fever may be due to acute pneumonia, and the lungs should be carefully examined; in older children the convulsions may be absent, but there is generally breathlessness and pain in the side on coughing. The feverishness in scarlet fever is accompanied with vomiting and sometimes diarrhœa, and the distinctive rash soon makes its appearance on the skin. Before this rash appears it is often very difficult to distinguish between scarlet fever and

acute diarrhœa from improper food, as both tend to produce vomiting and fever. Another cause of high temperature which must not be overlooked, especially in the case of young children, is acute inflammation of the ear, which is often unnoticed until pus and discharges are seen in the ear-opening. These cases are often mistaken for meningitis, the symptoms being very similar. Some feverish attacks seem to be due to enlargement of the glands of the jaw or the neck, with some tenderness and stiffness. This will last for a few days and then disappear, the swelling going down and the glands returning to their normal state. There is no pain in the inside of the throat. This ailment is infectious in its nature, frequently affecting several children in the same house.

In Bed or Out of Bed?—Many children frequently suffer from attacks of "feverishness," a state of high temperature and general slight disturbance with no definite apparent cause. In such cases it is often difficult to know whether the child should be kept in bed or allowed up. There seems to be no general rule, as although in some cases the temperature rises when the child gets up, in others the exact reverse is the case. In one case the fever will seem to be kept up by bed and a liberal diet, as the temperature falls at once when the child is allowed more exercise and less food. Probably, as Dr. Still advises, the wisest plan is to decide the question by experiment and to be guided not by the temperature only, but also by the general condition of the child; if getting up while the temperature is raised leads to complaint of feeling tired, or headache, or general unfitness, no doubt it is better to keep the child in bed, or let it rise late and go to bed early; but as a rule, these cases can be allowed up without harm.

The Treatment of Fevers in Children.—The majority of cases of infectious fevers are nowadays treated, if possible, in special hospitals, but there remain a considerable number of feverish conditions, such as measles, chicken-pox, and the various inflammations, which are still treated at home. The nursing of these cases is of the greatest importance. The child should be placed in a bed or cot in a large, airy room, preferably at the top of the house, in charge of a single nurse, and as much air as possible should be admitted at all times, provided no direct draught plays on the child. A fire should be kept burning day and night, and the temperature of the room should be kept at about 65 degrees F. Little furniture should remain in the room; carpets and hangings are better out of the way; at the same time a few bright pictures and flowers help to give cheerfulness. As a general rule, all available sunlight should be admitted; though if it be very bright, it may be necessary to shade the child's eyes. What furniture remains in the room should be such as can be readily cleaned and disinfected. Everything should be done to promote cleanliness. Sheets and blankets should be frequently changed, being replaced by others well-aired and warmed. This also applies to the night-dress and other garments worn by the patient. In most cases the child's body should be sponged all over at least once a day, the process being conducted as quickly as may be. The mouth should be cleaned once or twice every day by means of warm water and a soft brush. The diet should be principally liquid, and should be given little and often. Milk, barley-water, lemon-water, clear soups, and broth should, as a rule, form a sufficient dietary. In most cases oranges, ripe bananas, and roast apples may be given.

How to Recognize Scarlet Fever. — Scarlet fever is not usually difficult to distinguish from other diseases, though sometimes cases occur which have a resemblance to measles. The disease first shows itself by producing a sensation of weariness, pains in the back and limbs, headache, shivering, and loss of appetite. The tongue becomes coated with a creamy white fur, with red spots showing through. The throat is sore and red. On the second day of the fever a uniform red rash, consisting of small spots, appears, usually first on the chest and back. Soon the skin has the color of a boiled lobster. In measles, on the other hand, the rash does not appear until the fourth day of the fever and consists of crescent-shaped patches. In measles, also, the rash is preceded by running from the eyes and nostrils, which does not occur in scarlet fever.

Scarlet fever is one of the most contagious of all diseases, and the tenacity of the poison is remarkable. For many months it may remain adherent to books, toys, or clothing, and even after that time the infection remains active. It is certainly contagious from the first day of its occurrence to the last day of peeling, and in many cases even longer. Hence it will be readily seen that too much importance cannot be attached to the complete isolation of the patient during the entire period of the illness, and to the burning of all books and toys used by him.

Treatment of Scarlet Fever.—It has been recommended that the following antiseptic fluid be constantly vaporized into the room during the whole course of the case, from the surface of hot water kept simmering over a gas or oil stove: Carbolic acid, one ounce; oil of eucalyptus, one ounce; turpentine to eight ounces. Two table-

spoonfuls of this liquid are to be added to a quart of hot water. During the entire period of peeling the whole surface of the body should be kept anointed with the following oil: Carbolic acid, one drachm; oil of eucalyptus, two drachms; olive oil to eight ounces. In the earlier days of the illness an antiseptic gargle, such as the following, should be used every two or three hours: Boric acid, one drachm; glycerine of borax, one ounce; tincture of myrrh, two drachms; water to twelve ounces. During the first ten or twelve days the patient should be kept altogether in bed, and he should be confined to his room from four to six weeks in all. While the temperature remains above the normal the diet should be entirely liquid. Milk and water should be the principal features. Fruit in small quantities may be taken throughout. Oranges, bananas, and roasted apples are perhaps the most suitable. Various complications may arise. Thus, inflammation of the middle ear, enlargements of glands and inflammation of the kidneys, with consequent dropsy, are among the commoner attendant disorders. Should any of them occur, skilled advice should be obtained and strictly followed.

As a general rule, especially in the case of those who live in town, and more particularly where several children live in one house, any case of scarlet fever should be at once removed to a proper hospital, where it can be satisfactorily isolated. The effect which isolation hospitals have had in reducing infectious diseases has been very great. When a child attacked by scarlet fever is treated and nursed at home, certain precautions are absolutely necessary. To begin with, a special room must be set apart for the patient, and no one should enter that room except the one or two persons who are engaged in nursing the case. The room should be large and airy, and should contain no more furniture than is absolutely required. All carpets, woolen curtains, and hangings of every description should be removed; if any curtains are found to be necessary they should be of some easily washable material; the room should be provided with a fireplace, principally for the sake of the ventilation which it allows; those who are attending the case must devote themselves entirely to that work, and should not mix with other members of the household; if possible, a small room or cupboard adjacent to the sick-room should be set apart for the nurses to change their dress when leaving the sick-room or entering it. As soon as scarlet fever has been recognized the child should be put to bed, and he should be kept there as long as the temperature is above the normal. An unlimited supply of cold water may be allowed. Every day the entire body should be sponged with tepid water. The question of spraying or painting the throat, as well as the question of drugs, must be left to the doctor who is attending. Plenty of fresh air should be allowed throughout, and though chills should be avoided, far more harm is likely to be done by closed than by open windows.

Measles.—After an incubation period of twelve to fourteen days the following symptoms show themselves: Sneezing, cold in the head and eyes, rise of temperature, and sometimes aching pains and vomiting. The rash appears on the face on the fourth day, is blotchy, irregular, and of a purplish-red tint, and is distributed over all parts of the body. It begins to fade on the seventh or eighth day, when the fever usually declines suddenly. Measles is chiefly a disease of childhood, and is very infectious even before the rash comes out. Children having measles should be put to bed as soon as possible and kept warm, otherwise lung complications may supervene.

The chief dangers to be watched for and guarded against in nursing cases of measles are bronchitis and pneumonia, brought on by exposure to cold, disease of the kidneys, inflammation of the bowels or the glands of the neck, and inflammation of the eye, ear, or nose, these latter accompanied by a discharge. Disease of the lungs is often one of the consequences of a bad attack of measles, and it is on account of these serious complications that measles requires the most careful nursing. The patient's room should be kept at an even temperature of 60 degrees F. both day and night, and it must be thoroughly ventilated twice daily, a thin cloth being laid over the patient's head so that he is not directly exposed. A careful watch must be kept day and night that the patient does not throw off the bedclothes, and the whole body must be continually covered. No meat or animal food should be given; milk, stewed fruit, etc., and plenty of cold water, lemonade, oranges, and any slightly sweetened acid drink being all that is required. Drugs are usually unnecessary, and in any case should not be given without the advice of a doctor.

German Measles. — German measles, false measles, or rubella, is an epidemic fever, with a rash bearing a resemblance to that of scarlet fever and to that of measles. It is, however, distinct from each, though it is not always easy to diagnose it in the earlier stages. In some cases it resembles that of measles, and in others that of scarlet fever, or it may begin with a resemblance to that of measles and end with a resemblance to that of scarlet fever. The disease, however, does not usually affect the face in the striking manner that measles does, and the rash

appears at an earlier stage in the illness than is usually the case with measles. The symptoms, like the rash, commonly partake to some extent of those characteristic of measles and of scarlet fever; indeed, it is only by the mildness and shortness of the attack that we are able in many cases to form the opinion that the attack is one of German measles. It principally attacks children, though its occurrence among adults is by no means infrequent. As a rule, the symptoms are much milder than those of either of the two diseases which it somewhat resembles. It commences with a sensation of chilliness, headache, nasal catarrh, and general malaise. There is a slight rise of temperature. The rash appears either on the first or second day, first on the face, then on the chest, and in the course of twenty-four hours spreads over all the body. The eruption consists of a number of pink spots, slightly raised above the general surface. It generally remains for two or three days, after which it gradually fades, and may be followed by a little peeling of the skin. The treatment of German measles is very simple, and merely consists in keeping the child in bed for a few days, and giving a diet composed largely of milk.

Chicken-pox.—Chicken-pox is one of the common diseases of children, and is infectious, generally affecting all the children in a family. It is known in some parts of the country as "glass-pox," from the appearance of the rash when fully out, when it resembles little, transparent glass beads scattered all over the body. The disease takes about a fortnight to appear after infection, and the first symptom is the rash, the child generally feeling quite well. The rash in its early stage takes the form of red spots, but in about three or four hours these become raised and filled with clear fluid, like blisters. They sometimes become as large as peas. They are most frequent in those places which are subjected to pressure. The day after the rash appears the temperature sometimes rises a little, and the child seems feverish, but the temperature rarely rises above 101 degrees F. The fluid in the spots begins to dry up on about the third day of the illness, leaving brown crusts, and these fall off of themselves in the second week. They leave no scar, except in cases in which the spots have been scratched, when a white mark will be left. The rash does not all come out at the same time, a day or two often elapsing between the first spot seen and the final development, so that the marks are left for varying periods.

The period of infectiousness is long, and a suspect should be isolated for about three weeks. The treatment is very simple. The diet should be light and the patient should be kept in bed until the vesicles or "pocks" have dried into scabs, and the temperature has fallen to normal. The child should not be allowed to scratch the pocks, or there will be danger of permanent scarring; the irritation, if severe, is much relieved by sponging the skin with a solution of boracic acid in tepid water, of a strength of ten grains to an ounce of water. When vesicles burst they should be smeared with a little zinc ointment. No drugs are called for, but a dose of Epsom salts in the morning is often good. When the attack is very severe a generous diet and some form of stimulant are sometimes necessary.

Chicken-pox and Small-pox.—Chicken-pox may be distinguished from small-pox, which it resembles in some ways, by several points. First, chicken-pox is rarely seen on the face, while small-pox is always seen there at an early stage; secondly, the spots themselves differ considerably. Thus the spots in chicken-pox collapse if pricked, as the fluid is all contained in one blister or "bag," while in small-pox the fluid in the spots is contained in a blister consisting of several compartments, so that on pricking only the one pierced collapses, leaving the spot still raised from the surface of the skin. The chicken-pox spots become raised and blistered almost at once, but those of small-pox take longer to develop. When once the disease is clearly seen to be chicken-pox, no particular treatment is required. The child should be kept in bed for a day or two, and should be isolated or kept in one room away from other children, to prevent the disease from spreading. Until the complaint is quite definite, however, the isolation should be firmly adhered to, as the risk of infection, should the disease turn out to be small-pox, is a very grave one. Chicken-pox very rarely attacks adults.

Whooping-cough. — Pertussis, or whooping-cough, is an infectious disease that generally occurs in epidemics. Children are those nearly always attacked, though occasionally cases occur among grown-up people. Whooping-cough is very infectious, spreading through whole families and breaking up entire schools. It is generally conveyed directly, usually by the sputum which is distributed through the act of coughing, this action being very spasmodic and uncontrollable in these cases. It may, however, be conveyed indirectly by books, toys, or handkerchiefs, or the clothes of a third person. It is noticeable, however, that where precautions are taken properly to disinfect the sputum and to isolate the patient, the disease may be confined within a small area. Thus it is found that although schools and families may be widely infected, nearly everyone being

attacked who is not protected by a previous infection, yet in hospital wards it is not uncommon for the disease to be confined to the one original case, although the ward may be full of children who are subject to the infection.

The disease seems to be most infectious in its earlier stages, before the appearance of the characteristic whoop, and the danger of infection lessens as the disease progresses, although this is not of absolutely universal application. Little girls seem slightly more prone to contract the cough than boys, though there is no marked difference. Usually the disease commences much like a common cold, with a good deal of bronchial catarrh and expectoration. After ten or twelve days the characteristic cough makes its appearance. Each attack of coughing begins with a long indrawing of air, followed by a series of short, rapidly successive coughs, finishing with a prolonged noisy in-breathing or "whoop." Each fit of coughing is more convulsive in character, the face becomes more or less livid, the veins swollen, and suffocation appears inevitable. Bleeding from the nose or hemorrhage may follow a severe attack. The cough is generally worse at night, though the number of paroxysms in the twenty-four hours varies enormously in different cases. On healthy children the cough seems to have curiously little effect as regards their general health. They are, of course, uncomfortable and disturbed during the actual paroxysm, but between the spasms they appear quite normal, and their general bodily health seems quite unimpaired. Weakly children suffer rather more than this, in many cases becoming very ill. They sweat profusely, and have great difficulty in breathing, their pulse becomes intermittent, and they sometimes suffer from alarming symptoms resembling syncope. The gravity of whooping-cough lies not so much in the disease itself, which is rather annoying than dangerous, but in its possible and severe complications. It may be followed or accompanied, as is very frequently the case, by broncho-pneumonia, a very fatal infantile disease. This in very young children may occur before the whoop appears at all. In the case of elder children, it usually follows the whooping stage, in which case the sudden disappearance of the spasm, together with a rise of temperature, or sometimes the occurrence of a convulsion, will indicate the altered and graver state of things. Emphysema (distention with air or other gas) and bronchiectasis (dilatation of the bronchial tubes), tuberculosis, and certain nervous conditions are all possible complications or results of whooping-cough.

As a rule, in three or four weeks an improvement sets in, and the fits of coughing become slighter and less frequent. Unless complicated with pneumonia or with convulsions, whooping-cough is rarely fatal; but, especially in crowded parts of towns, complications leading to fatal terminations are frequent. The action of drugs on whooping-cough is very uncertain and unsatisfactory. Bromide of potash and belladonna are among the drugs most frequently employed, but this part of the treatment must be left entirely to the doctor. Too much attention cannot be paid to general hygiene. The child should be warmly dressed, and should be provided with unlimited fresh air. The vapor of carbolic acid, eucalyptus, and other disinfectants is undoubtedly helpful. The diet should be light and nourishing, and milk should form the greater part of it. Whooping-cough, like many other infectious diseases, is seldom contracted twice. This is almost universally true, only a very few doubtful cases of second infection being on record. Curiously enough, although the disease is usually confined to children, it is also sometimes found in old people, who seem to become vulnerable to childish diseases as they near their second childhood. Usually the cough is most common during the first two years of life, and after ten years old it is comparatively rare. It is essentially a spring disease, being at its height in March and April, and at its lowest point in September. It is a very curious fact that children at the breast, unless the mother herself is suffering from the disease, are usually immune from it. Should she, however, have the cough herself she will certainly give it to the child, and in such a case the characteristic cough has been heard as early as the first day of life.

Diphtheria.—Diphtheria is caused by the diphtheria (Klebs-Loeffler) bacillus. Diphtheria is one of the most contagious diseases that we have, and attacks both old and young. There are several varieties of the disease, depending upon the location of the diphtheria membrane. We have laryngeal diphtheria when the membrane forms in the larynx (see "True Croup"). We have nasal diphtheria when the membrane extends up into the nose. We have faucial diphtheria when the membrane affects the throat, spreading over tonsils, or soft palate, or both.

When a child has a sore throat, or any difficulty in swallowing or breathing, send for a physician at once. The writer has seen the worst cases of laryngeal diphtheria in children whose parents consulted me for a "running nose" or tonsillitis. The symptoms of diphtheria vary in different individuals. Some children do not seem ill at all, and yet have a temperature of 102° to 104° F. and patches in their throats; other children are

greatly prostrated by the first invasion of this disease, although the fever may not be over 100° or 101° F.

We have, then, usually fever, more or less prostration (according to the resistance of the child to the infection), sometimes vomiting (or, in very young infants, a convulsion), sore throat, or "running nose," inability to swallow, and some difficulty of respiration.

An examination of the throat reveals the presence of a grayish-white patch on one or both tonsils or the soft palate. The glands of the neck are usually swollen. If a culture from the throat be taken by the physician, he will find it loaded with the diphtheria bacilli. The child should be immediately isolated, a good dose of castor-oil given, and the physician summoned at once. There is but one treatment of diphtheria, and that is the immediate and fearless use of diphtheria antitoxin, injected under the child's skin by the physician. After the countless number of successful cases treated by antitoxin, thus reducing the mortality of this formerly dreaded disease from 65 per cent. to 25 per cent., it is difficult to understand why any person is so foolish that he refuses to allow the physician to inject antitoxin. The writer will not treat a case of diphtheria unless antitoxin is employed.

Diseases of the Nose, Mouth, Throat, and Respiration

Croup.—There are two kinds of croup:

1. True croup. 2. False croup.

1. True croup means the formation of a membrane in the larynx. This is the so-called diphtheritic croup. True croup means that the child has diphtheria of the larynx and that the diphtheria membrane has formed in the larynx. (The larynx is the so-called "Adam's apple.")

2. False croup means that the child has a catarrhal inflammation of the larynx; this has nothing whatever to do with diphtheria.

Unfortunately both of these two forms of croup (true and false) may commence in the same way—with cough, hoarseness, and slight fever. They may also begin with apparently no warning: the child awakens in the early hours of the morning with a hoarse, brassy cough, which, if once heard, never is forgotten. The true, or diphtheritic, croup is likely to come on more gradually than the catarrhal form.

What can the mother or nurse do, then, for a child with croup, no matter whether true or false? She should send for a physician. She should give the child a teaspoonful of the syrup of ipecac every fifteen minutes until he vomits. It is wise to quarantine the child until the physician is sure that the case is not one of true diphtheritic croup. A croup kettle should be in every household; it may be purchased from any good druggist and consists of a pail with a long tin spout and an alcohol lamp. The pail is filled half-full of water, the lamp is lighted, and the spout is placed under a sheet used like a tent over the child's crib. This steaming is continued at intervals of an hour or two until the attack has disappeared. There is but one treatment for the true, or diphtheritic, form of croup, and that is the immediate administration of diphtheria antitoxin by the physician.

Tonsillitis.—Tonsillitis is an acute inflammation of one or both tonsils. The disease occurs quite frequently in childhood. The child feels out-of-sorts, has a fever (103° to 105° F.), sore-throat, headache, and backache. Pain on swallowing is very marked, but is not always a constant symptom. There is foul breath and usually more or less thickness of speech. In infants the fever and inability to nurse may be the only noticeable symptoms. Upon examination of the throat we find either one or both tonsils red and swollen; there may be from three to twelve small, white spots scattered over the surface of the affected tonsil or tonsils. Abscesses sometimes form about the tonsils, and we then have a condition of quinsy. A child with tonsillitis should be kept away from other children, first, because tonsillitis is mildly contagious, and, second, because cases of diphtheria and scarlet fever may be mistaken for tonsillitis.

Give the child a dose of castor-oil, place cloths wrung out in cold water about his neck, and give him a light fluid diet. If in a very young baby, dilute his food one-half. Send at once for the physician. A child that has frequent attacks of tonsillitis is benefited by having his enlarged tonsils removed. There is practically no danger from this operation when performed by skilled hands. Remember that many a child has died from diphtheria who was only thought to have had tonsillitis. Do not think; send for your physician and know!

Mumps.—Mumps is a contagious disease, and manifests itself by a swelling of one or both parotid glands. These glands are situated on either side of the face in front of, below, and slightly back of the ear. The incubation period of mumps (time from exposure to first symptoms) varies from five to twenty days. The child is peevish, has a loss of appetite, and soon complains of pain on opening the mouth. One or both sides of the face begin to swell, and oftentimes the swelling extends down on to the

neck. In very young children convulsions may occur.

The ovaries and breasts in the female and the testicles in the male are often affected by mumps; hence care should be exercised that the patient be kept quiet. Keep the child on a fluid diet and keep the bowels open. Enlarged glands of the neck are often mistaken by the laity for mumps.

Adenoids and Their Treatment.—At the back of the nose and above the uvula, the tissue of the roof of the throat is often, especially among children, overgrown and thickened, so that little warty masses hang down, almost blocking up the back of the nostrils. As a consequence there is almost always nasal catarrh, snoring during sleep, and loud breathing at all times, a more or less nasal voice, and usually an increasing denseness of intellect. The affection is an extremely common one, especially among children who are placed among unhealthful conditions, though it is by no means confined to such. A child so affected does not get on either physically or mentally, and his face acquires an increasing look of stupidity, partly owing to the necessity of keeping his mouth open, and partly owing to the mental change. If the case is neglected, the mental dullness becomes permanent, and incurable ear diseases and deafness may also result. Seeing that adenoids are easily cured by a simple operation, no delay should be allowed in taking the child to a surgeon. After the adenoids have been removed it is of great importance to correct the bad habit of mouth-breathing which has been acquired, and to develop proper nose-breathing in its place. The principal points have been summarized as follows:

1. Teach the child to clear the nose by blowing it freely and frequently, and discourage snuffling. To excite interest, select a "picture" handkerchief for young children.

2. Direct a child to breathe in and out through the nose while the mouth is tightly closed. This might be adopted as a regular exercise for a minute or two, twice or thrice a day.

3. When convenient, adopt drilling and gymnastics, calculated to develop chest expansion. Insist on all these exercises being performed with closed lips.

4. Encourage running, jumping, skipping, and all exercises that expand the chest—always with closed lips.

5. Be sure that the nose is "quite clear" at all times, especially at bed-time; use a nose-wash composed of common salt if there is any discharge, and consult the doctor.

6. Encourage singing and reading aloud.

Cold in the Head.—Cold in the head, or "snuffles," usually means that the child was overheated, his skin perspired, and then a draught of cold air struck his moist skin, and he took cold. This taking cold is manifested in the little patient by a running nose, watery eyes, and a slight hoarseness.

Playing on the floor, going out bundled with too much clothing, steam-heat in sleeping-rooms, etc., are the most frequent causes of colds in the head. When he shows the first symptoms of having taken cold, the child should be given a dose of castor-oil. A few drops of liquid vaseline dropped in each nostril by means of a medicine-dropper three times a day will often do much to cure a cold in the head.

A cold should never be neglected, as oftentimes the most dangerous diseases are ushered in by a cold in the head.

Scrofula (*Tubercular Adenitis*).—Scrofula, or tuberculosis of the lymphatic glands, is met with principally among children, but not infrequently in middle age. The glands of the neck are most commonly affected, probably on account of the exposure of the tonsils to infection. It has been thought that the tonsils act as a kind of strainer for the air passing to the lungs, filtering from it the germs which would be likely to cause mischief to the body. In a state of health it is held that the tonsils are able to destroy the germs thus separated, but when, owing to an attack of catarrh, the activity of the tonsils is reduced, the germs are able to gain admittance through them, and thus the glands of the neck become infected.

There is a tendency for the tubercular glands to suppurate, though the majority of cases, if left alone, spontaneously recover. As the general health improves, especially if the child be placed under more healthful surroundings, the cells of the glands acquire strength sufficient to overcome the tubercle bacilli. The treatment of these cases is primarily hygienic, fresh air and liberal diet and plenty of outdoor exercise being the chief factors; owing, however, to the possibility of more vital parts of the body being infected, it is sometimes necessary to remove the affected glands.

Laryngitis.—Ordinary laryngitis, or inflammation of the larynx, gives rise to cough, often of a barking character, to huskiness or loss of voice, and often to some difficulty in breathing. Owing to the occasional association of laryngitis with diphtheria in its more fatal manifestations, it is always wise to call in a doctor whenever the symptoms of laryngitis show themselves. It by no means follows, of course, that all or even

most cases of laryngitis are of a grave character, but only a skilled person should attempt to discriminate between the serious and the milder forms.

Bronchitis.—The great thing in cases of infantile bronchitis is to find out the cause and direct the treatment to its removal, instead of merely treating the attack itself. Rickets should be looked out for, and should receive appropriate treatment, and growths in the nose and nasal passages should be sought for, as these are a fertile cause of bronchitis and similar ailments. Enlarged tonsils, adenoid growths, and chronic rhinitis are all factors in the production of bronchitis, as until the habit of breathing through the mouth, which always accompanies these disorders, is cured, bronchitis is always likely to occur. Excessive fatness also predisposes to bronchial affections, probably through the obstruction of the circulation and the consequent venous congestion in the lungs, which induces catarrh of the bronchial tubes. Overfeeding, with its consequent congestion of the pulmonary circulation, is also harmful. Bronchitis—as, indeed, most other disorders of childhood—is much commoner among the poor children of cities than among either poor country children or the better-to-do residents in towns. The principal cause is undoubtedly foul air, though insufficient or incorrect food is also a contributory factor. In the winter-time, especially, the children of the poor spend the greater part of their time in close, stuffy rooms, often far from clean, the windows of which are not opened from one week's end to another. Naturally enough, the lining membrane of the bronchial tubes is subject to a continuous irritation, which sets up a catarrh to which the name of bronchitis is given. Another, though less frequent, cause is the taking of children from hot rooms directly into the open air on a winter's day or a winter's night. This is especially likely to induce bronchitis in a child who is usually mollycoddled and spends an insufficient amount of time in the open air every day. The importance of correct feeding as a preventive of bronchitis is obvious when we learn that about seventy per cent. of the cases of bronchitis in infancy are associated with rickets.

When an actual acute attack of bronchitis presents itself, active treatment is called for. Much depends on the season of the year as to the treatment to be followed. In summer, if the weather be fine, it is well that the child, properly clothed, should spend much of every day in the open air, and the remainder of the day in warm yet well-ventilated rooms. In winter-time the air of the room should not exceed 65 degrees F., nor should it fall below 55 degrees F., but it is very important that the air should at all times be kept fresh. If the child seems really ill it is better for him to be in bed; not only is it thus more easy to keep the body warm without getting the room stuffy, but the perfect rest thus obtained throws less work on the respiratory system. During the acute stage of bronchitis the diet should be very light, principally liquid. Warm drinks, such as milk and barley-water, thin soups, barley-water flavored with lemon, or linseed tea, may be given freely. In winter-time it is a good plan during an attack of acute bronchitis to keep the entire chest swathed in a layer of cotton wool, but nothing should be allowed to constrict the chest, as it is important that no further obstruction should be offered to the breathing. In the way of medicines it is well at the beginning of the attack to give a dose of some purgative. Two or three grains of calomel, followed by a dose of magnesia next morning, is as good as anything for this purpose. In the majority of cases it is very doubtful if any further medicines are helpful. Should the cough be very troublesome and spoil the night's rest it may be necessary to relieve the irritation, but this should be done by the prescription of the doctor. It should be remembered that the cough is only an accompaniment of the disease, and not its cause. It is, indeed, a natural process, intended to afford relief to one of the symptoms of the disease. It is always a mistake to check natural processes of cure unless they are so energetic as to show signs of doing more harm than good. When the acute stage of bronchitis is over, everything possible should be done to restore the strength and vitality of the patient. If at all feasible, some weeks should be spent in the country or by the seaside, the greater part of every day being passed in the open air. Moderate exercise should be taken, care being used, however, to avoid over-fatigue. A light, nourishing diet is called for, and it is important that this include a liberal allowance of fat. Among the most valuable forms in which this fat can be given are milk, cream, butter, and cod-liver oil.

Pneumonia.—Pneumonia occurs in two major forms: croupous or lobar pneumonia—which, by the way, is in no way related to the form of laryngitis known as croup—and catarrhal pneumonia, broncho-pneumonia, or capillary bronchitis, as it is known by all three of these names. It is not very easy for the unskilled person to distinguish between these two forms, nor is it necessary that he should do so, for both are very grave diseases, and call for the immediate and continuous attention of the doctor. The second

form is much more fatal in infancy than the first, and it accounts for a very large proportion of the yearly deaths among infants. Broncho-pneumonia is much more likely to attack children whose general vitality is low, and it is a perfect scourge among the ill-fed and those who live in the crowded parts of cities. It often follows on measles, whooping-cough, and other acute diseases. In both forms of pneumonia there is considerable fever, more or less cough, and difficulty in breathing. The number of respirations per minute is considerably increased, and the child is naturally restless and uncomfortable. There is complete loss of appetite and usually considerable thirst. The preventive treatment consists in all measures for promoting the general health.

Suitable food and clothing and fresh air are the best preventives of this, as well as of nearly all the other diseases of childhood. Still, pneumonia, especially the lobar form, may attack even the best-cared-for child. The disease generally begins suddenly with a chill. In the course of a day or two the breathing becomes short, and there is more or less cough. The temperature rises, usually to about 103 degrees or 104 degrees. Whenever, in the course of convalescence from measles or whooping-cough, the child suddenly becomes feverish again, and is troubled with rapid breathing and a hard cough, broncho-pneumonia is likely to be present. In bad cases the difficulty of breathing becomes more intense, the color becomes more or less vivid, the cough gradually disappears, the lungs are choked with mucus, and death occurs from paralysis of the heart. Once the disease has set in, the case should be put into the hands of a doctor, and his instructions should be strictly followed. He must not be expected, however, to do the impossible, and it is unfortunately true that no drug or other treatment has yet been discovered which will cut short the disease. Much may be done, however, to relieve individual symptoms, and by maintaining the best possible conditions to give the child the best chance of overcoming the disease. The child should be kept continuously in bed, and should be dressed either in a flannel night-dress or flannel pajamas; it is well that the feet and legs should also be covered with woolen bed-socks. A layer of wadding or cotton-wool should be arranged around the chest and back, but should not be allowed to interfere in any way with the free movement of the chest in the act of breathing. An open, airy room should be chosen, where selection is possible, and a fire should be kept continuously burning. Thorough ventilation is essential, and though a certain degree of warmth should be uniformly maintained, a constant supply of fresh air is even more requisite. The diet should be entirely liquid, milk and water forming the chief part.

If a large room is not available, two small rooms should be employed, one for day use and one for night use, the one not in use being thoroughly aired by open doors and windows for twelve hours out of the twenty-four. During the summer-time cases of broncho-pneumonia are best treated in a bed placed in the open air, sheltered if necessary from strong winds by means of some form of screen. When there is great pain in the chest, this may be relieved by the application of a hot poultice or fomentation. If the fever is very high, a hot bath, rapidly cooled down to 85 degrees F. after the child has been placed in it, often affords remarkable relief, but the child should be disturbed as little as possible, as all its strength is required to carry on the work of breathing. Drugs have very little effect on the course of this disease, and should be given only when ordered by the doctor in attendance. If the attack is survived there is generally a long period of convalescence. A light, nourishing diet, including plenty of milk and cod-liver oil, is called for; and as soon as the child is fit to be moved, some weeks or months should be spent in the country or by the sea.

Pleurisy.—Simple acute pleurisy presents symptoms very similar to those of pneumonia, but there is much more pain during the early stages of the disease. Both cough and breathing cause a sensation as of a stab at a particular part of the chest. The treatment is very similar to that of pneumonia.

Empyema.—Between the lungs and the chest wall is a sort of sac known as the pleural cavity, which in a state of health is scarcely any cavity at all; in other words, the inner walls of the sac smoothly work almost in contact, producing just sufficient lubricant to prevent friction. In disease, however, this cavity may become filled with purulent fluid, or matter, and we then have the condition known as empyema. It may be considered as a variety of pleurisy in which there is a considerable effusion of a matter-like fluid between the layers of the pleura or membrane covering the lungs, and is not a very uncommon sequel of pneumonia, especially in children. The symptom likely to draw the attention of the parent is a continuation of cough and fever, the temperature being very irregular, and the continued illness of the child for a much longer period than is usual in pneumonia. The treatment must be left to the doctor. It consists in making a small opening in the chest wall, and

allowing the matter to escape. After recovery from pleurisy or empyema, it is very important to restore the activity of the chest and lungs as soon as possible. For this purpose moderate and increasing exercise should be taken in the open air every day. If left to itself, empyema frequently ends fatally by perforation of the lungs or by blood-poisoning.

Digestive and Intestinal Troubles

Stomach Troubles in Infancy. — Digestive troubles are the chief source of all the ailments of infancy, and nearly all these digestive troubles may be traced to incorrect feeding. It is true, of course, that some children constitutionally are less capable than others of digesting ordinary food or milk, but such cases do not account for a fiftieth part of infantile indigestion. In infancy the commonest symptoms of stomach trouble are wind and nausea. Some babies are habitually sick immediately after each meal; this is usually a sign that too much milk has been given, and consequently that the stomach has been overfilled. When this occurs the amount of milk given should be reduced, and it should be given more slowly. If, however, the nausea does not occur until an hour or so after a meal, it is usually evident that the food is not being properly digested. Assuming in the first place that the child is being fed at the breast, the only fault is possibly in the habits of the mother. She may, for instance, be drinking every day a considerable amount of beer or other malt liquor, for there is a popular superstition that this is desirable in a nursing mother; or she may be engaged in arduous physical work, too great for her powers; or again she may keep irregular hours and spend her days amid undue excitement; or her diet may not be sufficiently liberal, or may not contain the proper proportion of vegetable food. If the baby is bottle-fed, it is possible that some artificial food is being given that does not agree with the infant, or the milk may be given too strong, or the barley water, if any is added, may be improperly prepared, or the meals may be given at irregular intervals, or it may be found that the mother or nurse is in the habit of giving the child portions of food utterly unsuited to its age and capacity. In the majority of cases, if the dietetic errors be remedied the stomach troubles will soon disappear; if they do not, medical advice should be obtained without undue delay. In older children stomach trouble is also generally traceable to errors in diet. In these cases it is well at the outset to give a couple of grains of sulphate of copper in a tablespoonful of water, so as to induce vomiting and thus to empty the stomach, and then to give nothing but sips of water for twelve hours.

Bowel Troubles in Infancy.—As the result of wrong feeding, not only the stomach but the intestines also may be put out of order. In most forms of chronic indigestion both stomach and bowels are affected, and we have what is called gastro-intestinal catarrh. In infancy this is much more common among bottle-fed babies than in those fed only at the breast. Feeding too often, or at irregular intervals, is responsible for a good many of these cases, the habit among some mothers of giving the breast or the bottle every time the baby cries—usually because it is in pain through inability to digest the previous meal—being a fertile source of trouble. The usual symptoms are pain, nausea, wind, diarrhœa or constipation, and commonly wasting. When the diet of the child is correct and the mother, if nursing the child, pays proper attention to her own diet and habits, when all feeding-bottles or other appliances are kept scrupulously clean, when the baby itself is kept clean and sweet, and when an abundant supply of fresh air is regularly provided, indigestion among babies is a very rare disorder indeed. Most cases, if taken early, quickly recover when proper diet and hygienic conditions are provided, but when the case is more advanced some preliminary course of treatment will generally be found necessary. If the child is not at the breast, very diluted milk, say one part of milk with two parts of lime-water, one grain of citrate of soda being added to each ounce of milk, may be given every two hours through the day, and every four or five hours through the night. When even this cannot be tolerated at first, it may be necessary for a few days to keep the child on an equal mixture of water and whey, given every two hours through the day.

In order to prepare the whey a drachm of liquid rennet is added to half a pint of milk, which is just blood-warm. This should then be allowed to stand until it forms a firm clot. This clot or curd should then be thoroughly broken up, and the whey strained off through muslin. Before being used the whey should be heated almost to boiling point, and then allowed to cool to a proper temperature for the child. If this diet is continued for more than a couple of days it should be alternated with white-of-egg mixture, made by beating the white of an egg in a teacupful of cold water, and adding a little sugar. An alternative diet to the whey and water consists in diluted peptonized milk, the milk being peptonized by means of powders sold for the purpose. In some cases of infantile indigestion

fresh cow's milk in any form cannot be made to agree with the child. Curiously enough, in such cases it is sometimes found that condensed milk is tolerated and digested. Some good brand of sweetened condensed milk, containing all the original cream, should be selected, and should be given in a very dilute form, say about a teaspoonful to a teacupful of water. As soon as the acute symptoms disappear a gradual replacement of the artificial dietary just described by the proper diet of a healthy child should be effected, but such replacement should be gradual and should be stopped at once should the symptoms again appear. Throughout the entire period of treatment the value of fresh air and cleanliness cannot be over-estimated. Individual symptoms may require special treatment. Thus, for persistent vomiting, a powder consisting of five grains of carbonate of bismuth with half a grain of compound ipecac powder may be given three times a day to a baby nine months old. Twice that amount may be given to a child two years old and over.

Constipation.—Constipation is more frequently seen in bottle-fed babies than in breast-fed babies; this is occasioned by generally using a milk mixture that is too rich in proteids (curd of the milk). In older children constipation is often caused by giving the child fresh bread, too much potatoes, or other starchy food. Not having a regular time to move the bowels will cause constipation. Not having sufficient exercise is a predisposing cause. In breast-fed babies constipation is usually caused by the mother's diet being faulty.

What should be the treatment of constipation? Try to regulate it by a proper diet. If in a young infant, dilute the feeding one-fifth with water and add a little more cream or use a weaker feeding formula. It is often of service in constipated bottle-fed babies to use oatmeal-water instead of plain boiled water in making the feedings. Have a regular time to move the bowels. The temporary use of a glycerine suppository each night and morning or an injection or two of warm, soapy water may often suffice to remove the accumulation of fæces from the rectum and relieve the constipation. If the stools are hard, the introduction of an ounce of sweet oil into the rectum by means of a rubber tube and glass funnel is often very efficacious in removing the hard concretions which form. This apparatus may be purchased at any drug-store. The tube is of soft rubber, and is called a small rectal tube. The funnel and tube should be boiled in water before using them. The tube is pushed on over the end of the funnel for half an inch. The tip of the tube is slightly vaselined and pushed very gently into the baby's rectum for a distance of three inches. Baby should lie on the nurse's lap, on his back, and the nurse should elevate his legs. The sweet oil, slightly warmed, is slowly poured into the funnel. If the oil refuses to run, move the tube slightly in and out of the rectum, for the eye of the tube may possibly be clogged. After all the oil has run into the rectum, gently withdraw the tube. After the tube has been withdrawn, pinch the buttocks together and hold for a few moments so that no oil can escape. In from half an hour to three hours (in some cases longer) baby will have a soft stool.

To Give an Injection.—Lay the child on your lap, which should be protected by a rubber sheet, and raise his feet. A fountain syringe, consisting of a one-quart rubber bag, a long rubber connecting-pipe, and a small rubber rectal tube, forms the best syringe. The bag is filled with warm, soapy water. The rectal tube is connected to the long rubber pipe by means of a small piece of glass tubing. The rectal tube is vaselined and the tip of it is inserted into baby's rectum. The water is now allowed to run from the bag and the rectal tube is pushed into the rectum for about five inches. The fountain-bag should hang four feet above the baby. Allow all the water to run into the baby's bowel; this water will come out again through the bowel along the side of the rectal tube, and will wash out the accumulation of fæces contained in the rectum.

In older children hot water, or the juice of an orange, before breakfast, stewed prunes, stewed pears, or baked apples, eaten during the day, will often correct the constipation. Let the child get plenty of exercise. Massaging the bowels with the warmed hand just before baby goes to stool will often assist in relieving constipation; rub the skin over the bowels with the tips of your fingers, using gentle pressure.

A fallacy among many mothers and nurses is to give castor-oil whenever baby becomes constipated; castor-oil should not be given repeatedly. A single good dose of castor-oil may be of benefit in cases where baby has colic, diarrhea, or fever, but to use it repeatedly is a great mistake. Drugs should not be used to relieve constipation unless prescribed by a physician.

Jaundice in New-born Babies.—During the first week or so of life slight jaundice is very common. The skin takes on a yellowish color, though no other signs of illness may be present. These cases usually clear up in the course of a few days or a week without any treatment; occasionally, however, infantile jaundice is due to

much more serious conditions, and may even prove fatal. It is also an occasional symptom of inherited syphilis. This requires special treatment, so that all cases of jaundice which do not clear off in a few days should receive the attention of a doctor. Later on in early childhood, jaundice, due to catarrh of the stomach and bile passages, is fairly common. Apart from the yellow color of the skin and the whites of the eyes, the principal symptoms are loss of appetite, a general feeling of being poorly, and dark-colored urine. The treatment of this form of jaundice consists in putting the child to bed and keeping him on a liquid diet—milk, soups, and broths—until the symptoms disappear. It is as well to give a grain or two of calomel every night, and a Seidlitz powder or dose of magnesia every morning.

Jaundice in Children.—Children of every age are liable to suffer from a form of jaundice due to simple catarrh of the stomach. These cases are not serious, but on account of the discoloration of the skin are likely to cause alarm to parents and friends. Generally the actual jaundice is preceded for a few days by some symptoms of indigestion. This is soon followed by a yellow discoloration of the skin and of the whites of the eyes. The appetite usually disappears, and sickness is common. Generally in a week or ten days the jaundice disappears, and the child recovers.

The treatment is simple: ordinary solid food should be withheld. The diet should consist almost entirely of milk, water, soda-water, barley-water with lemon, and beef tea. A Seidlitz powder or a little sulphate of soda should be given every day or two. It is advisable either to keep the child in bed or in a warm room until the attack has passed.

Stomach-ache in Children.—What is usually incorrectly called stomach-ache is one of the commonest troubles of childhood. The pain, as a matter of fact, usually is not in the region of the stomach itself, but proceeds from the bowels. Sometimes the pain is accompanied with vomiting. Relief is generally afforded by the application of a hot fomentation, and the injection into the bowel of from half a pint to a pint of warm water. A dose of castor-oil may also be given. When a child frequently suffers from stomach-ache or other digestive trouble the teeth should be examined, and any unsound ones dealt with by the dentist. Such things as candy, cakes, and pastry should be avoided, and of course no tea or coffee should be given to a young child under any circumstances. All the food given should be of the most digestible kind. Such things as milk, minced-meat, boiled rice, custard, cocoa, toast, and an occasional hard crust are the kind of foods that should form the staple diet.

Biliousness.—Biliousness may usually be traced either to insufficient open-air exercise or to incorrect feeding, but there is an undoubted constitutional element as well; some people being much more liable to this form of illness than others. The symptoms are very unpleasant. After a day or two of physical depression the appetite becomes less and less, sickness sets in, and there is usually very severe headache. There is a great pallor of the face, and a feeling of utter weakness. All who are subject to bilious attacks should take plenty of outdoor exercise every day and live simply, principally on such food as milk, eggs, fish, fruit, and vegetables. They should avoid candy, cakes, pastry, and tea, and especially they should take such steps as are necessary to ensure a free daily movement of the bowels. They should cultivate the habit of drinking large quantities of water between meals. When the attack actually comes on it is well at once to lie down in a dark room, and to abstain from food altogether. Water may be freely drunk, and a three-grain calomel powder may be taken.

Intestinal Indigestion.—It is not generally realized by the ordinary layman that there are two kinds of indigestion, that which has its seat in the stomach and that which takes place in the intestines. The former is the more common, and is easily recognized by its accompanying symptoms of pain and discomfort, with flatulence or acidity, coming on soon after a meal. Many persons possess stomachs which seem capable of taking all sorts and all quantities of food, and passing them on to the bowel with no appreciable ill-effects. In most cases, however, the ill-effects are merely passed on, and the intestinal digestion is upset by the strain thus put upon it. The symptoms of this form of indigestion are very varied, but the pain, which is the usual accompaniment of indigestion, is only occasionally present in the form of colicky pains, pain in the back, or merely an uncomfortable feeling of distention. Diarrhea or constipation, or the two alternately, are frequent symptoms of the disorder, and wasting is a usual and alarming symptom.

"Bolting" food, either from haste or from imperfect molar teeth, is one of the most usual causes of this form of indigestion, and habitual over-eating is also responsible for many cases. The effects of both are not so immediate as in ordinary gastric indigestion, the effects being delayed until the food has reached the bowel.

In children this form of indigestion is perhaps more common than the gastric form, and most frequently shows itself as a chronic affection, causing alarming wasting. Depression, languor, and diarrhea are all symptoms of the disease, and it is often mistaken for its opposite—underfeeding. The usual course of events is somewhat the following: A healthy child, with a healthy child's normal appetite, is given rather too full a diet, with too much farinaceous food and sugar, and these in such a form that they are swallowed too easily, and with insufficient mastication, and consequently in too large a quantity. The first symptoms of intestinal indigestion then begin to appear; the child looks pale, and begins to lose flesh. The alarmed parents at once begin a course of "feeding up," with beef-juices, cream, and patent foods added to the already over-full dietary. The condition grows steadily worse on this treatment, and so perhaps Parrish's syrup is added for the anemia and cod-liver oil for the wasting. This is usually the last straw, and the child's health breaks down completely. In severe cases the condition is so bad that it has been taken to be caused by locomotor ataxia.

The first thing to be done in such cases is to give the intestines a thorough rest, and to this end the food should consist of peptonized milk, whey, and mutton, chicken, or veal broth, not, however, made too strong. After a short time of this *régime* the appetite will probably recover, it having usually disappeared on the breakdown. Then a little of some more solid food may be taken—fish, chicken, or mutton, plainly cooked—and after a short period of this diet, a little farinaceous food may be cautiously given. This should take the form of toast, milk pudding, and plain biscuit, and must be given, as far as possible, dry, or in such a form that it must be thoroughly masticated. The great thing is to prevent over-eating. The last stage of all in convalescence is the building up by means of fatty foods—butter, yolks of eggs, and cod-liver oil. The length of time occupied in the process of complete recovery varies greatly with the length of time during which the illness has been established, and the stage which it has reached. Small meals should be given at frequent intervals, and the sequence shown above in the resumption of ordinary foods should be strictly observed.

Diarrhea.—Diarrhea is a common symptom of indigestion, especially in infancy. Here again improper feeding is undoubtedly the most frequent cause of the ailment. Some forms of diarrhea are accompanied with great danger, the summer diarrhea being responsible for a large proportion of the infantile death-rate. Lesser diarrhea, if long continued, is also dangerous, and in any case leads to considerable wasting and loss of strength. In summer it is a wise preventive measure to boil every drop of milk before giving it to the baby, and the greatest care should be taken to keep all feeding-bottles, rubber teats, etc., in a state of absolute cleanliness. Most slight cases of diarrhea among babies who are being properly fed can be quickly cured by giving a dose of castor-oil at the onset, and by reducing the amount and frequency of the meals for a few days. Plenty of cold boiled water should be given to drink.

Worms.—There are three kinds of worms which may affect children. They are the tape-worm, the round-worm, and the pin-worm (or thread-worm). The tape-worm and the round-worm live in the intestines of the child. The pin-worm makes his home in the rectum of the child, and often migrates into the vagina of girls and into the foreskin and urethra of boys, causing an inflammation of these parts. The symptoms of worms are said to be numerous. As a matter of fact, the only way that one can be sure that a child has worms is by observing the worms or pieces of them in the child's stools.

Pin-worms may be found around the anus. When a female child has an itching of the vagina accompanied by a whitish discharge, or when a male child has a similar condition of the prepuce, worms should be thought of and looked for. The treatment consists in removing the worms and should be left to the physician.

Some Skin Troubles

Ringworm.—Ringworm is a parasitic disease affecting the scalp, as well as the skin in other parts of the body. The presence of this disease is first shown by the appearance of small circular patches of complete or partial baldness, the exposed skin being usually rough and pimply. Short, broken-off stumps of hair are usually distributed unevenly over the area. The disease is a very infectious one, and unless it be actively dealt with will quickly spread over the scalp and body of the patient and also among others with whom the patient comes in contact. As it is important to get rid of this disease as quickly as possible, it will be as well in all cases to put the case into the care of a doctor from the start. Among the most successful methods of treatment is the application of pure carbolic acid. This, which is a somewhat drastic remedy, should only be applied once, the liquid being painted over the entire patch.

Favus.—Favus is a disease of the scalp caused by a fungus which forms dry, yellow, cup-like

crusts on the scalp, each cup containing in its center a hair. The appearance is curiously like that of honeycomb. The disease causes considerable itching, and the hair becomes very brittle and falls out. A mouldy smell, not unlike the smell of mice, is a striking manifestation of this disease. The treatment is directed at the destruction of the fungus. The head should be shaved, and poultices applied until the crusts have been removed. Afterwards tar ointment should be applied twice daily, the application of the ointment being each time preceded by a thorough washing with soft soap and hot water.

Eczema and Its Treatment. — The name of "eczema" is applied rather widely to cover several conditions of the skin. The word itself means simply "an eruption," so that it may be used to describe almost any diseased condition of the surface of the body. As a rule, however, it is limited to three or four varieties.

The local treatment of eczema varies according to the stage which the disease has reached. In the earlier stages, when the skin is moist, hot, and red, lotions should be used to soothe and cool it. Such preparations as the various lotions of borax, bicarbonate of soda, and lead, used either alone or in conjunction with powders of an absorbent nature, will be found of use. At all stages the use of soap should be avoided. When the eruption is decreasing, mild mercurial ointments often do good. At the dry and itching stage, when the skin becomes rough and scaly, pitch, creosote, and all the tarry applications are useful. Poulticing, or soaking with oil, will remove the crusts, and the ointment should then be applied on strips of lint. Poulticing should be resorted to as little as possible, and washing in water always does harm. When cleansing is necessary a little milk will be found to answer the purpose with the minimum of pain and harm. Eczema often lasts a long while, and, even when apparently cured, frequently recurs again and again. Any local irritation will cause it, as will varicose veins, dyspepsia, and gout.

Many people, even many doctors, are likely to look upon eczema and other skin diseases as purely local complaints, calling for purely local remedies. There is, in nearly every skin disease, some general constitutional condition directly related to the external eruption. This constitutional condition needs to be taken into account in any treatment that is adopted. To take eczema, for instance, it is well known that some individuals are much more likely to be attacked than are others subject to the same external irritation. It is true that, as a general rule, some such irritation, such as is caused by scratching or uncleanliness, or certain substances brought into contact with the skin in connection with various occupations, is necessary to bring about an attack of eczema; but even in these cases a general or constitutional cause is also present. This calls for hygienic treatment, fresh air, a liberal supply of milk, cod-liver oil, etc. Again, in the eczema of middle age, a constitutional tendency to gout is often present, which calls for treatment suitable to that complaint. Thus, the diet should be light yet nourishing, and saline aperients should be freely employed. Abundant active outdoor exercise is also necessary. Digestive disorders, again, such as sluggish liver or catarrh of the stomach, are often intimately associated with eczematous outbreaks. Therefore, in treating a case of eczema we should first try to ascertain with what constitutional condition it is associated, and endeavor to remedy that condition. We should next inquire into the causes of local irritation, and, if possible, remove them. As we have said above, the causes of local irritation are many; it may be due to irritating discharge, washing soda, uncleanliness, scratching, the wearing of flannel next to the skin, or many other causes.

Irritation of the Skin. — In cases in which there is considerable itching and irritation of the skin, where no cause is ascertainable, and there is no very obvious rash, the only treatment called for is one which will check the irritation. Such irritation is not uncommon when the surface of the body has been much heated by the wearing of unsuitable and unventilated clothing. The best application for this purpose is a lotion composed of equal parts of salad oil and genuine eau-de-cologne. These ingredients will not mix, but should be shaken well together before using, and then well rubbed into the skin. The irritated part should, of course, never be scratched, as this only increases the itching.

Some General Diseases

Infantile Paralysis.—According to the accepted view, based on such knowledge as is available at the present time, no possible preventive treatment can be suggested to ward off the terrible condition known as infantile paralysis. As a general rule the first symptom to be noticed is that one or more limbs is paralyzed. Of course, in all cases, medical advice should be sought, but after the acute stage has passed the most important part of the treatment will consist of massage of the affected muscles.

Systematic massage has probably more effect than any other mode of treatment, but it must be properly and thoroughly applied. If proper in-

structions are followed, this is not difficult. On a leg or arm the following movements should be practiced. They may be performed by an intelligent mother or father or nurse. The massage should be made twice a day at least, and for not less than twenty minutes. The movements are done with a view to firm squeezing of muscles, not to painful pinching of the skin. All the movements begin from below, and work upwards, from foot to hip, from hand to shoulder. The child should lie down on a bed if the whole limb is to be massaged, or may sit on a chair or on the parent's lap if only the leg is to be done.

(*a*) The first movement is one of squeezing and rubbing firmly, but not painfully, with the whole palm of one hand, grasping first one side and then the other, or the whole limb at once if it can be surrounded. The left hand should hold the foot while the right grasps and rubs the limb from below upwards. It is best to rub with the dry hand. But neat's-foot or olive-oil may be used if the masseuse or masseur has not attained the requisite skill. When the thigh and buttock are involved, this firm rubbing should extend from the ankle up to the buttock. It must be done thoroughly. (*b*) The second movement consists in squeezing the muscles and skin between the thumb and forefinger firmly, but not so as to give pain. All the movements should be done deliberately. The foot should be included in this movement. The fingers are to be placed under the foot or leg or calf, and the thumbs in front; the soft parts are then firmly but gently squeezed out between the fingers and thumb. Sometimes the balls of the thumbs accomplish this better. The muscles and skin should be flattened and widened as much as possible without giving pain, but firmly and slowly. The movement commences at the foot, and gradually passes up the whole limb, and should include the buttock. (*c*) The third movement is like the wringing out of sheets. The rubbing and squeezing are done neatly and completely round the leg, each hand working in the opposite direction; the grasping is effected by all the muscles of the operator's hand.

Rickets.—Rickets is one of the commonest of the diseases of infancy and early childhood. In almost every case it can be traced to incorrect feeding. Children whose diet has been properly chosen from the first very rarely develop this condition. It is true that rickets is occasionally found among children who have been entirely breast-fed. In these cases usually the mother is in poor health, or she feeds her baby at too frequent intervals, or she has borne so many children at such short intervals that her breast milk is of poor quality, or she has continued giving the child the breast after the usual period of nine or ten months. Still, in nearly all cases, it is found that a child who suffers from rickets has been largely brought up either on condensed milk or on some artificial starchy food. It seems in every case that either from wrong food or food given at irregular intervals the child's digestive apparatus is upset, and consequently the food is imperfectly digested, and the resulting poisonous products are spread through the system, giving rise to general weakness and a loss of physical vigor. The symptom of rickets most generally associated with it in the popular mind is the deformity due to the softening of the bones of the limbs, but other symptoms are equally common and even more important. Thus the rickety condition may show itself in the form either of convulsions, or of bronchitis. In nearly all cases there is great pallor, due to anemia. Diarrhea, again, is very common, and, especially in the summer time, is the cause of many deaths. All these varying conditions call for special treatment, but in every case the rickety state which is at the back of them must itself receive treatment. It does not by any means follow that a rickety child, although it is badly nourished, is necessarily thin. On the contrary, a large number of rickety babies are abnormally fat, and this often leads their mothers to believe that all is going well with them. But when bronchitis or bronchial pneumonia attacks such children it is found that their fatness is but one additional source of danger.

The errors in diet most often responsible for rickets consist in giving an excess of starchy food and an insufficiency of fat. Both condensed milk and almost all the so-called infants' foods are at fault in one or both of these ways. The proper diet for nearly all infants up to the age of nine or ten months is their mother's milk. In its absence the best substitute, except in those rare cases where it cannot be digested, is good, fresh cow's milk. As a rule, the only additions that this requires are a little sugar, and in the earlier months a varying proportion of water. When rickets has once manifested itself, the first thing to do is to restore the healthy activity of the digestive system. Usually the child's abdomen is distended and swollen. Nausea is not an uncommon symptom, and the irregular passage of unhealthy stools mixed with slime is usual. The stomach and bowels should therefore for a few days have as much rest as possible, about half a tumblerful of an equal mixture of milk, lime-water, and barley-water every three hours being all that the child requires. This amount is named

on the assumption that the child is approximately a year old, which is about the age at which rickety symptoms most commonly show themselves to the parent. The accumulated fermenting and undigested material in the bowels should be cleared out by means of a small dose of castor-oil; usually a teaspoonful is sufficient for this purpose. If vomiting or diarrhea continues even under this simple dietary, then it is advisable to withhold milk altogether for a few days, substituting chicken or mutton broth, or white of egg beaten up with water. The stomach and bowels having been restored in this way to something like health, a proper diet must gradually be introduced. The principal article in the dietary should be fresh cow's milk; as much of this as can be taken should be given every three hours throughout the day. In addition to this, cream, cod-liver oil, butter, and yolk of egg may be given. Some fresh fruit daily is also desirable; bananas, oranges, and grapes being perhaps the most suitable. At least a pint and a half of milk should be taken daily, and if the child be over a year old not less than a quart should be taken. It is well to give two meals a day of oatmeal made with milk, or boiled bread and milk. At over eighteen months a child should be given, in addition, some green vegetables and also boiled fish or boiled mutton.

But not only the diet, but the general hygienic surroundings of the child must receive attention. Fresh air and sunshine, if possible in the open country or by the sea, are of the utmost importance. Almost the whole day should, whenever possible, be spent in the open air. Stuffy, ill-ventilated rooms are most injurious to all children, but to those whose resisting power is weakened by rickets they are almost fatal. The clothing should be warm yet light, and should consist mainly of flannel or other woolen fabrics. The whole body should be bathed at least once a day. Medicines are of less importance than the general measures above described. The value of cod-liver oil has already been referred to. From one to six teaspoonfuls of cod-liver oil emulsion should be given daily to every rickety child as soon as his digestive organs have been got into working order. It is well to begin with small doses, and gradually increase them. The changes in the bones and joints require special attention. The ligaments become easily stretched, and the bones easily bent; deformity, therefore, is common. Curvature of the spine, sinking in of the ribs, knock-knees, bow-legs, and inability to walk until a late age are frequent accompaniments of rickets. In bad cases of spinal curvature, with great weakness of the back muscles, the child must be kept lying down night and day, a backboard and shoulder straps being employed if necessary. The back muscles must be thoroughly massaged two or three times a day. The deformities of the leg also need early attention. If they are left until the bones begin to harden, cure will be possible only as the result of a serious surgical operation. Where knock-knees or bow-legs show themselves, the child should be taken off his legs at once and must not be allowed to bear any weight on them. According to the extent of the deformity, the child must be prevented from standing for from one to six months. In order to secure this result it is generally necessary to attach the legs to long splints reaching from above the knee to below the foot. At the same time every opportunity should be taken, when the child can be watched, to remove the splints and to allow him while lying on his back, to kick out with his legs and so exercise the muscles.

St. Vitus' Dance.—St. Vitus' dance, or chorea, is a remarkable disease that chiefly affects children. Its principal characteristic is an irregular, involuntary twitching or contraction of the muscles. It is very commonly accompanied with serious disorder of the heart. In mild cases the affection of the muscles is slight, and amounts to little more than an appearance of restlessness, and an inability to sit still. The child seems to be continually in a condition of fidgets. Frequently he becomes very irritable and bad-tempered, though this may partly be caused by the constant trouble into which the uncontrolled muscular contractions are continually leading the young patient. Owing to the involuntary jerking movements the child spills a cup of tea or drops a plate, and so is continually being subjected to scoldings and unpleasantness before the parents and friends have realized the nature of the trouble.

In more severe cases the muscular movements are much more general and more serious. The child may be quite unable to undress itself, owing to the continual contractions of the muscles, and the muscles connected with speech may be so affected as to render talking impossible. St. Vitus' dance generally affects first the hands and arms, then the face, and lastly the legs. Generally all the movements cease during sleep. In the ordinary way there is no pain, though occasionally certain tingling sensations occur, and headache is very frequent. An average case lasts from two to three months, though mild cases may recover in as many weeks. The affected child should be kept away from other children, and, if practicable, from other members of the family.

Scurvy.—Infantile scurvy generally shows itself between the sixth month and the second year. The principal symptom is some form of hemorrhage or bleeding, with consequent anemia. The bleeding may occur under the skin or from the nose, or from the bowel, or about the ends of the long bones of the limbs, giving rise to painful swellings in those situations, or the gums may become spongy and bleed, or blood may be passed through the bladder. Children affected with scurvy are generally very apathetic, and show very little inclination for movement. There may be great tenderness about the limbs. The disease is caused entirely by keeping the child on a diet that does not contain what is known as the "antiscorbutic" element. This element is present in much greater quantity in fresh foods, such as milk, fruit, and vegetables, than in prepared foods and canned milk. Even boiling cow's milk seriously reduces its antiscorbutic properties, and scurvy has frequently been produced in infants who are fed entirely on pasteurized or sterilized milk. Boiling milk for only a few minutes seems, however, to be comparatively harmless in this respect. The treatment of scurvy is purely dietetic. Plenty of milk should be given in every case, and fresh fruit and vegetables should also be freely used. Orange-juice, lemon-juice, grapes, and, in older babies, mashed potatoes that have been boiled in their skins, and cabbages, are the most suitable fruits and vegetables. Generally a great change shows itself within a week and the child takes an increasing interest in itself and its surroundings. Scurvy is often present with rickets, and the treatment for the two ailments is not dissimilar.

Some Special Diseases

Hip Disease in Childhood.—Hip disease, by which is usually meant tubercular disease of the hip-joint, is almost entirely confined to childhood. It is so serious in its possible consequences that it is most important to recognize the disease in its earlier stages. Usually the first symptom to show itself is a limping or lameness, the child seizing every opportunity to rest the affected limb, and to throw the weight of the body as far as possible on the other. Pain soon develops, and the lameness steadily increases. It should be noticed that the pain usually does not show itself in the hip-joint itself, but is referred to the knee or thigh. Indeed, the pain may first show itself in any part of the leg or foot. There is no direct connection to be made out between the seat of the pain and the position of the disease. Another early symptom to show itself is what are known as "night startings." These may be entirely absent; but when they occur, the child who has gone to sleep quietly and comfortably suddenly awakes with a cry, owing to the acute pain caused by the relaxation of the muscles. Swelling of the joints constitutes another important symptom. If the case be not early attended to, suppuration sets in and an abscess results, and there is considerable wasting of the body. Spasm of the muscles surrounding the hip is always present, and in some cases this is so rigid that the joint itself appears to be fixed. At an early stage of the disease the affected limb begins to waste, and once begun, the process rapidly continues.

As to the outlook of hip disease, it may be said that, unless actively treated from the beginning, the majority of cases end fatally before the child reaches adult life. The cases that recover result in deformity and shortening of the limb. The treatment consists, if the case is taken in hand early enough, in keeping the child in bed until, by some method of extension, the limb is made perfectly straight, after which what is known as a "Thomas's" splint should be applied, and the child allowed to get about, preferably in the country. This should be continued for a period of ten years or more. During this time as much nourishing food as can be digested should be given, milk and cream being specially important. In more advanced cases excision of the hip, or even amputation, may be necessary.

Tubercular Meningitis. — Tubercular meningitis occurs principally among children, most frequently between the second and fifth year of life, though cases are found at every age. The onset is gradual. A child appears to be somewhat ailing, becomes peevish and irritable, loses its appetite, and gets thinner, then one day a convulsion occurs, or there may be a violent headache with nausea. The child occasionally suddenly puts its hand to its head and gives a short cry; sometimes there may be continuous screaming through the pain. Night terrors are common, and there may be sudden startings of the muscles, as if the child were frightened. Next, the headache seems to subside, but the child becomes dull and apathetic, and occasionally delirious. In this stage convulsions are frequent. In the final stage the child becomes comatose and cannot be roused. Convulsions may occur, and the child may lastly sink into a low, delirious state with a dry tongue and rapid pulse. The entire course of the disease is usually under a month. There is, unfortunately, very little to be done in the way of treatment, for it is doubtful if any case of true tubercular meningitis has ever recovered. Drugs can

do little even to relieve the more painful symptoms.

Disease of the Heart.—In rare cases a child is born with a diseased heart; that is, a heart in which either the valves are not efficient or there is some defect in the division walls. Children so afflicted tend to general weakliness, and do not develop like other children. Owing to poorness of circulation they suffer much from cold, and for this reason it is essential that they should be much more warmly clothed than other children. They must also be kept from all physical shocks, excitement, and over-exertion. The majority of children born with heart disease die before they reach the age of two years. Acquired heart disease is unfortunately very common in childhood, especially in connection with rheumatism. Heart trouble is also not an uncommon legacy of scarlet fever, and even of measles and mumps. Sometimes these cases do not present any symptoms of heart trouble until childhood has been passed, but in some cases the usual symptoms of heart disease show themselves. Thus there may be shortness of breath, a feeling of faintness, headache, palpitation of the heart, occasional blueness of the face, and even some dropsy of the feet and legs. In all cases where heart disease is suspected a doctor should be consulted. The smallest sign of heart failure should be treated by a period of complete rest in bed, a light diet, and gentle purgation. Any other drugs should be ordered by the doctor.

Deformities

Flatfoot.—As a result of general debility, especially in rickety children, the muscles and ligaments of the foot become weakened, with the result that the arch of the foot is flattened, and what is known as flatfoot is the result. The condition is accentuated by the wearing of ill-fitting boots, and by over-much standing; as a consequence all elasticity of the foot is lost, the patient is unable to walk long distances, and quickly becomes tired. In the way of treatment the first thing to do is to support the arch of the foot by means of a suitable block placed in the boot, but this of itself will be of little use unless it is accompanied by regular exercises taken twice daily. Suitable exercises are:

1. Turn the feet inwards against resistance. (This is done by the hands of another person.)
2. Rise on the toes with the feet close together.
3. Rise on the toes, but separate the heels as they rise, the toes being kept together.
4. Walk on the outer border of the foot.
5. Sit on the floor in a cross-legged position with the outer border of the feet resting on the ground; this will relieve the strain on the instep, and be a comfortable position.
6. Standing, lift the toes alternately from the ground, quickly repeating until tired.
7. Skipping, tripping, and running on the toes should be encouraged; and all will improve the condition of the feet and develop a good instep.

As far as possible, especially when at home, sandals should be worn instead of boots, and all boots and shoes should be specially made of the shape of the natural human foot. Practically all boots worn allow insufficient room for the proper use of the toes. Mrs. Archibald Little, an English writer, quotes the case of a gentleman who has solved the problem thus presented by having one toe cut off each foot. He said he saw no use for it, and it always gave him pain whenever he had to wear boots, so he preferred amputation once for all. If this method is not adopted the simple and obvious plan seems to be to leave the toes room.

Knock-knee.—Knock-knee is a deformity which in a slight form is fairly common. It consists in the bending inwards of one or both of the knee joints, so that the ankle bones cannot, when the patient stands upright, be made to touch. It may be single or double, and in a rather rarer form one knee is bent inwards while the other bends outwards, as if to avoid touching it. It is common among those who have been used from infancy to the carrying of heavy loads, and is especially found among young bakers, who work and carry heavy masses of bread in a warm atmosphere, which is most relaxing to the tissues. It is caused by debility of the muscles and ligaments, and often occurs in rickety children. Unhygienic surroundings and bad food are often to blame, and a bad way of standing, too long standing, and the awkward carrying of burdens, are all responsible for knock-knee.

Pigeon-breast.—One of the commonest deformities caused by rickets is that known as pigeon-breast. The ribs are flattened at the sides, so that the chest becomes narrower from side to side, and at the same time deeper from front to back. The breast-bone appears prominent, and the lower part of the stomach projects. The subjects of pigeon-breast nearly always complain of shortness of breath, and frequently of palpitation. As the patients reach middle-age, bronchitis and emphysema manifest themselves. The only treatment worth consideration is directed to the cause. Abundance of nourishing and digestible food should be given, a liberal allowance of fresh milk being specially important. As much time as possible should be spent in the open air, and gymnastics and respiratory exer-

cises are of great assistance. When the tonsils are enlarged or adenoids are present, they should be dealt with by the surgeon.

Expert Advice on Sundry Topics

Malnutrition (*Marasmus*).—By malnutrition is meant bad nutrition. It is usually the result of improper feeding, and occurs most frequently in bottle-fed babies. The usual history of a case of malnutrition is as follows: A baby is born into the world a nice, healthy, seven- to ten-pound normal infant. The mother nurses her offspring for a few weeks and all goes well; then on account of the lack of breast-milk supply or the formation of an abscess in the mother's breast, or on account of some other reason, the baby is taken from the breast and put upon a mixture of condensed milk and water. In using condensed milk I have found that mothers are prone to make the mixture too weak; the baby gets on well enough for a short time, and then the mother says that the condensed milk does not agree with the baby; so she changes her infant's diet to one of cows' milk diluted with water. Just as she made the condensed-milk mixture too weak, she now makes the cows'-milk mixture too strong, and baby vomits, has the colic, is constipated, or may have diarrhœa. The cows' milk is likewise thrown aside, as the mother says that it also does not agree with her baby. And now comes a lightning change in the food line from one patent food to another, all with practically the same result, namely, that nothing agrees with the baby! The mother now has on her hands a baby that weighs less than he did when born, vomits, will not take his food (and no wonder, for he is disgusted with the stuff that has been fed him for the past two or four months!), and has attacks of constipation alternating with diarrhœa. He has colic, his flesh is wasted away and flabby, and in extreme cases he has the face of an old man. This extreme condition is called marasmus. All in all, such a baby is a very poor specimen of the human race.

What should be done with a baby suffering from malnutrition? In the first place, of course, a child should never be allowed to get in such a condition. An infant should never be taken from the breast except upon a physician's advice. A baby's food should never be changed except upon the advice of a physician. The rational feeding of bottle-fed babies is not the simple problem that the majority of the laity seem to regard it. It is at the best a hard proposition, as each baby is a law unto himself and requires the skill of the physician to tide him over babyhood. Do not tamper, nor juggle, nor experiment on your own account, with your baby's nourishment. It is his *life,* and you have no business to trifle with it.

Secondly, given a baby that presents the symptoms of malnutrition, *what shall we do with him?* He should be unconditionally surrendered to the care of the physician, who will look after his feeding, and in all probability will start him off on some weak food mixture and then gradually strengthen his food as fast as the digestive powers of the individual baby will permit. Such a child should have a salt-water bath morning and evening. He should have a tablespoonful of goose-grease or sweet-oil rubbed into his skin every morning and evening after his bath. He should be disturbed by handling as little as possible. His extremities should be kept warm by the use of the hot-water bottle. He should have an abundance of fresh air. His road to health will probably be a long one. If he is in an extreme condition of marasmus, it is a question whether he can be cured at all; but in many of these severe cases astonishing results have been observed to follow the treatment outlined above.

Malnutrition in older children forms a large part of the practice of the average specialist in diseases of children. It is a mistake to bring up a child with strictness dietetically until he is three or four years old and then let him shift for himself! What makes this thin, scrawny, pale, undersized twentieth-century child? His parents are to blame, because they did not in his childhood exercise the strict care regarding his food, sleep, bathing, habits, etc., which they did exercise in his infancy. Candy, "soft drinks," quick lunches, delicatessen and bakery food, have been the ruination of this child's digestion. He should have three good, wholesome, home-cooked meals a day: meat, vegetables, eggs; soups of peas, beans, and lentils; milk; not too much bread; fresh air; a rest in middle of the morning for one hour, and in middle of the afternoon for one hour; good ventilation in his sleeping room; a daily bath.

With good, hygienic surroundings and proper food, these children do well. Therefore, parents, if your child is thin, pale, and malnourished, it is you who are not giving him a "square deal." Take him to your physician, and hereafter give more attention to his food (*nothing* between meals), and both you and he will be far happier.

Circumcision.—It very frequently happens that the foreskin is too long or that the opening in it is insufficient to allow it to slip easily back and forth over the glans. This condition gives rise to many symptoms in the child, such as bed-wetting, extreme nervousness, and bad habits.

When this opening in the foreskin is of fair size it may be stretched by the physician and the adhesions broken up; it should then be kept well greased with boric acid ointment night and morning, and the foreskin worked back and forth over the glans twice daily. By this means circumcision may be avoided. When the opening is only of pin-head size, nothing will do but a complete circumcision. This little operation should be done as soon as possible—any time after the baby is a month old. It may become necessary to circumcise a baby almost as soon as it is born, and if done by a physician no harm ever results from the operation; in fact, the harm is done by allowing this constricted condition to remain.

Hives.—Hives is an acute inflammation of the skin and is characterized by white or pinkish wheals (solid or semi-solid elevations) scattered over the body, accompanied by intense itching. These elevated spots will appear suddenly, and oftentimes leave as suddenly as they came. The spots are from the size of a small pea to the size of one's fingernail. Local irritation of any kind may cause an appearance of the eruption. Stomach or bowel irritation caused by improper food is the usual cause of hives. Certain kinds of food may bring on an attack. A child with hives should be dressed coolly, his bowels should be cleared by a dose of castor-oil, and a bran bath should be given him twice daily. His food should be weakened for a time, and he should be kept free from excitement and out of the sun.

Swollen Glands.—Swollen or enlarged glands are caused either by an acute inflammation in or near them or else by some chronic and long-standing inflammatory process. Take, for example, a child with diphtheria, with large, swollen glands on either side of the neck and at the angle of the jaw. These glands are swollen because they absorb the poison manufactured by the diphtheria bacillus. This enlargement decreases with convalescence, and thus we have an example of acute glandular enlargement.

On the other hand, take a child that becomes infected with the bacillus of consumption. We notice here that the glands gradually enlarge for perhaps months. If these glands are left to themselves they will break down and form abscesses which are usually tuberculous. Here we have an example of chronic glandular enlargement. The glands in the armpit or in the groin may become acutely enlarged from some wound on the hand or the foot. In mumps the parotid gland, situated under and in front of the ear, becomes enlarged. In cases of acute glandular enlargement due to the absorption of some poisonous matter from the neighborhood of the gland, we must treat the cause of the swelling, and *not* the gland itself.

Head-lice will cause swelling of the glands of the neck; remove the head-lice and the swollen glands will disappear. Swollen glands, no matter whether they are acute or chronic, demand the attention of the physician, as usually by his care a speedy diminution in their size will be effected.

Bedwetting.—Bedwetting is encountered both in very young and in older children. It is usually a nervous disorder, although it may be observed in children who do not seem to be of a nervous temperament. The writer has seen several cases where circumcision entirely relieved the condition. A child who is a bedwetter should be given no fluid after five o'clock in the afternoon. He should be prevented from sleeping on his back; this may be accomplished by tying a towel with a knot in it about the patient in such a manner that the knot will come in the middle of the child's back. If these procedures do not help the affection, the treatment should be left in the hands of the physician.

Head-Lice.—Head-lice are commonly seen in the hair of children of the lower classes, but oftentimes from contact we find them also in the heads of the children of the well-to-do. The nits (or eggs) are seen in the hair as small white specks, glued, as it were, to the individual hairs. There is itching, and occasionally crusts will be noticed. There may also be enlargement of the glands of the neck.

The treatment of head-lice consists of cutting the hair short and applying a mixture of half kerosene and half olive-oil to the scalp morning and night. The child should have a soap-and-water shampoo once daily.

Bad Habits.—1. Sucking. This habit consists in sucking some portion of the infant's own body, usually the fingers, thumb, or toes. The baby often sucks a part of his clothing or a rubber nipple. The sucking habit is a difficult one to break, as it often persists even until the child is from three to six years old. Deformities of the fingers, thumb, or lips may result from this habit. A baby should never be given any object to suck, such as the "pacifier" or rubber nipple. Restraint is the only remedy. A baby who sucks his hands should wear mittens, especially at night. Tying the hands together with a piece of tape, which is carried around behind the baby's back, thus making it impossible for him to get his hands to his mouth, is often successful in breaking baby of this habit.

2. Masturbation (Leg-rubbing). Masturbation consists in rubbing the genitals. In the male, an

elongated prepuce may be the cause, and circumcision will usually remedy it. Masturbators are usually white-looking children, with sunken, sleepless eyes; they become absent-minded and complain of headaches. If masturbation is caused by rubbing the genitals, restrain the hands so that they cannot reach these parts. If masturbation is caused by leg-rubbing, separate the child's thighs by a large diaper, so that they cannot rub together. The physician should be consulted.

3. Ear-pulling. Often babies seem to enjoy pulling their own ears and many an ear has been disfigured by this habit. Bandaging the hands, so that the child cannot grasp the ear, is the treatment.

Night-Terrors.—Few of the nervous disorders of childhood are more distressing than the outbursts known as "night-terrors." They usually occur in highly nervous, excitable children. The child goes to bed and to sleep as usual, but wakes up suddenly in an absolute panic of terror, and generally screaming loudly. Sometimes the child tells of terrible apparitions which came in his dreams, but generally no cause can even be suggested. As for treatment, it is useless to fight fear with fear, and to try by severity to overcome the child's nervous dread. If the child is afraid of the dark, he must be humored to the extent of either company or a candle. The general nervous state will need toning. Undue excitement must be avoided, and meals and bedtimes must be kept as regular as possible. The diet should be plain and moderate in quantity. Two or three grains of calomel may be given occasionally, and it is most important in all cases to ensure a free daily movement of the bowels. Should there be enlarged tonsils or adenoid growths at the back of the nose, they should be removed by a surgeon. The nerves may further be calmed by a dose of a bromide at bedtime.

The After-care of Vaccination.—All babies should be vaccinated before the fourth month of their lives if they are in at all a fit state of health, as, should this be left until later, its effects are likely to clash with the teething period, and give the child double pain and trouble. Should the baby be suffering from any skin eruption, or should it seem in very weak health, the vaccination should be postponed in spite of this risk. The usual place for a child to be vaccinated is the upper arm; but as in children the scars frequently grow with the limb, and are consequently disfiguring in later life, it is not unusual to have girl children vaccinated on the calf of the leg. The only objection to this method is that it is more difficult to keep the part protected while the vaccination is "taking," and it is more likely to be rubbed and hurt than the arm. After the actual operation has been performed, the arm should be left uncovered until the moisture has dried, and then a piece of clean bandage should be lightly applied. On the third day after the vaccination each of the marks will show a small red pimple, which on the fourth or fifth day turns into a spot with a watery head, this stage being accompanied by slight fever. The arm then begins to swell around the marks, and on the ninth or tenth day the redness and swelling will extend to an inch or more round the part. The spot soon after this bursts and discharges its contents, which dry into a black scab. This will fall off by itself on about the twentieth day after the vaccination, and must not be touched or interfered with before it does so, nor should the dressings be disturbed. If the parts seem very painful while inflamed, they should be protected by a shield, which may be bought at any druggist's. The most painful period is usually from about the eighth to the eleventh day, after which time the pain should gradually diminish; but, should the arm remain painful after eleven days from the date of vaccination, a doctor should be asked to look at it.

Chilblains.—Chilblains are most common among those persons whose circulation is weak and slow, hence children and old people are most subject to them. They are of an inflammatory nature, and are induced by sudden changes from heat to cold, or the reverse. They begin with a reddish swelling, inclining to purple, which gives rise to an intolerable itching. This swelling increases and forms a blister which in time breaks and ulcerates. Although the chilblains are yet unbroken, they should be rubbed with a lotion containing equal parts of alum and sulphate of zinc, half an ounce of spirits of wine, and four ounces of water. An ointment composed of an ounce of lanolin with two drachms of wintergreen oil is also recommended. Heat will relieve the itching when it becomes unbearable, and this may be applied either by holding the hand or foot as near the fire as can be borne, withdrawing it and repeating the process, or by steaming the affected part in water as hot as can be endured, the part being either allowed to cool in the air or dipped into cold water before replunging it into the hot water. If the latter plan be adopted the part should be carefully and thoroughly dried without rubbing. A dusting powder which is useful in soothing the irritation may be composed of two parts of boric acid, one part of powdered talc, one part of starch, and a little menthol. Broken chilblains are more difficult to deal with, and are best treated by the application of oint-

ments, such as a simple carbolic acid ointment. They should be kept very clean, and care should be taken that no dirt gets into the wound, or more serious consequences may result. Painting with flexible collodion will often prevent a chilblain from breaking even at a very advanced stage. The best means of preventing chilblains is, of course, the improvement of the circulation, and also the avoidance of pressure. A mere examination of the points in which chilblains always occur is sufficient to prove how much stoppage of the circulation has to do with this painful affection. Tight boots, gloves, cuffs, and garters should all be avoided. Plenty of exercise should be taken, and as soon as any sensation of chilliness is felt a brisk walk or violent exercise of some sort should be at once indulged in. Children who are subject to chilblains should be encouraged to skip and run, and they should wear warm, loose clothing, and woolen gloves and stockings. Hands and feet when cold should be warmed by exercise, and not by placing by the fire. After washing, the hands should be thoroughly dried, and then rubbed vigorously with a dry, rough towel. It is a good plan to make a habit of spending a few minutes every morning before breakfast in the performance of some simple physical exercise, so that the day may begin with the circulatory system in proper working order.

Food Recipes

Albumin-water.—Cold water, ½ pint; white of 1 fresh egg; salt, a pinch; brandy, 1 teaspoonful.

Mix the white of the egg with the water, then add the brandy and finally the salt; shake thoroughly. It should be given to the baby cold, either from the bottle or from a spoon.

Barley-water.—Prepared barley-flour, 1 level teaspoonful; water (boiling), 1 pint; salt, a pinch.

The flour should be stirred up with a little cold water before adding the boiling water. Let it boil for one hour, strain through a fine strainer, and add enough boiling water to bring the quantity again up to one pint.

Barley-gruel.—Made the same as barley-water, but use *two* good tablespoonfuls of prepared barley-flour.

Beef-juice.—One pound of lean round-steak, cut thick. Broil it slightly. Cut it in small pieces and squeeze out the juice by means of a meat-press or a lemon-squeezer. From two to four ounces can generally be obtained from a pound of meat. This juice may be given warm by standing the cup in warm water; do not use much heat in warming the juice, as the albuminous part will coagulate if you do.

Junket (Curds).—Take ½ pint of fresh milk, heat it lukewarm (very slightly warm), add 1 teaspoonful of Fairchild's essence of pepsin, and stir just enough to mix. Let it stand until firmly curdled. It may be served plain or with sugar.

Milk-toast.—Milk (fresh), 1 cupful; cornstarch, ½ tablespoonful; butter, ½ tablespoonful; salt, a small saltspoonful.

Scald the milk. Melt the butter in a saucepan; when the butter is hot add the cornstarch and stir into a paste with the hot butter. Pour in the scalded milk slowly, and beat all the time until smooth. Let it boil up once; now add the salt. Toast two slices of bread and pour the thickened milk over the slices. Let it stand five minutes; it is now ready.

Mutton-broth.—Chopped mutton (with a few pieces of bone), generally taken from the neck, 1 pound; water (cold), 1 pint; salt, a pinch.

Cook for three hours over a slow fire down to half a pint, gradually adding a little water to prevent burning. Strain through a fine strainer. When partly cool, carefully skim off all the fat. It may be given to the child warm or cold (in the form of jelly).

Chicken-broth, veal-broth, and beef-broth are made exactly the same as mutton-broth.

Oatmeal-gruel.—Oatmeal (thoroughly washed), 3 tablespoonfuls; cold water, 1 quart; salt a pinch.

Cook in double boiler for two hours down to one pint, adding water from time to time. Strain through muslin.

Oatmeal-water. — Oatmeal, 3 tablespoonfuls; cold water, 1 quart; salt, a pinch.

Wash the oatmeal thoroughly. Cook in a double boiler for two hours down to one pint, adding a little boiling water from time to time. Strain through muslin. When strained, add enough boiling water to make quantity up to one quart.

Peptonized Milk.—Contents of 1 peptonizing tube; water (cold), 1 teacupful; milk (fresh and cold), 1 pint.

Put the powder contained in the tube into a clean quart bottle, add the cold water, and shake well; then pour in the milk and again shake the mixture thoroughly. Place the bottle in water of about 115° F. (it should be possible to hold the whole hand in it for one minute without discomfort) and keep the bottle there for twenty minutes. Have the water come up on the sides of the bottle to above the level of the milk in the bottle. Now take the bottle out of the warm water and place it immediately on ice. Peptonized milk should have a slightly bitter taste; but this bitter taste may be overcome to some extent by the addition of sugar.

Scraped Beef.—A piece of lean round-steak is very slightly broiled; the browned, greasy outside portion is cut away; then with a knife or fork the rare part is scraped or shredded. One teaspoonful to one tablespoonful may be given to a child of eighteen months. The preparation should be well salted.

Whey.—Take ½ pint of fresh milk, heat it lukewarm (very slightly warm), add 1 teaspoonful of Fairchild's essence of pepsin, and stir just enough to mix. Let it stand until firmly curdled. Then beat it up with a fork until the curd is finely divided, and strain through a piece of muslin. The whey is then ready for use.

HOME NURSING

BY

MARY E. CARTER

Some persons seem to have a genius for nursing and are never so happy as when ministering to the sick. They know intuitively much—that others learn only by careful training—about ways of making an invalid as comfortable as possible. But however natural one's aptitude in caring for the sick, there are always improved methods and new inventions for ameliorating a patient's suffering to be learned of, especially from those who make nursing a profession. It sometimes happens that one who most dearly loves the sick person is less acceptable as nurse than a stranger who *understands* better what is wanted to make the sufferer comfortable. We cannot all of us be trained nurses, but all who desire to do so can easily become acquainted with much that is practical, and with part of the curriculum of the course of one who is training for the profession.

Preventive Measures to Avert Illness

Before taking up the subject it may be well to say a few prefatory words upon the wisdom of using preventive measures to ward off a threatened illness. In the majority of cases this could be done by taking that ounce of prevention which so many neglect until it is too late. The old, familiar proverb, "Joy and temperance and repose slam the door on the doctor's nose," is here pertinent. Joy, temperance, repose, all three, are health-giving and health-conserving, but here it is purposed to lay stress upon the incalculable importance first, of temperance; next, of proper and timely rest. By giving up and going quietly to bed for a day or two, or even for only a few hours sometimes, one may avoid what, without that little precaution, might prove a serious and long attack, with its retinue of aches and pains, drugs, and doctors' unwelcome bills—cure or no cure. They are as certain to be called for as taxes.

It is especially true with regard to colds in their early stages that simply by rest, warmth, and a good, long sleep, they may be sent speedily to the realm of nothingness, for there is no storage place outside the human organism for the preservation of aches or any fleshly ills, past, present, or future.

Neglected colds lead to all sorts of suffering and to almost every known ailment—if in no other way, by depleting the system and getting it in a receptive condition to fall an easy prey to disease. Therefore it is well to realize the vital importance of getting quickly rid of a cold while it is in the incipient stage and easy to conquer, instead of permitting it to progress and develop into some serious indisposition. A good, long sleep in a warm, but thoroughly ventilated, room has often proved both a tonic and a cure. To break up a cold it is all-important that the ailing one should rest quietly for hours, letting the vital forces take absolute possession of the citadel of being and assume complete control of the situation.

Good home nursing given in season is of great value in every family, because it immediately checks and promptly conquers a threatened illness. But inexperienced or untrained people seldom nurse wisely. In the case of colds, and in many other cases also, good nursing is shown by such a wise adjustment of conditions and environment that nature is given every opportunity to restore the lost balance without delay, or drugs.

Encouraging the Natural Forces to Combat Abnormal Conditions

It is impossible to overestimate the power of our natural forces, when they are encouraged and given full sway, or their imperative claim to entire dominion while they are contending with abnormal conditions that we have brought

upon ourselves by lack of poise. Henry Wood says: "Pain is friendly." Assuredly it is so, because it admonishes and calls a halt from some sort of intemperance.

Reckless people need to be reminded that the sin of intemperance is not confined to drunkards or liquor-drinking. There is more intemperance in eating than in drinking. Still more in pleasure-seeking of all sorts. Intemperance in business pursuits is one of the crying sins of this day. There is intemperance in work of all sorts —intemperance in study and intellectual culture, intemperance in religion and in charitable work. True, the last two are not as ominous or as widespread as any of the others. But the point is that *any* intemperance is sure sooner or later to cause pain, disease, weakness, and these announce emphatically to the sufferer that disorder is reigning within because it has been allowed to usurp the place of order. Pain is caused by the contention for supremacy between natural, therefore divine, order and that which is abnormal, consequently unfit to continue. The battle between the normal and the abnormal always causes pain. It is said by those who make a study of disease that often dangerous conditions exist before pain announces the battle on.

If these are facts, then we may realize the great importance of siding with the lawful health-restoring—therefore natural—forces, instead of thwarting their beneficent efforts for restoration by our continued intemperance. Frequently absolute rest is the first condition that must be yielded to by the one who is *out of order*. That little phrase is most expressive.

A Knowledge of Nursing Is Serviceable in Various Ways

There are very few people, no matter what their station in life, who do not find themselves at some time so situated that they would be very glad to know some of the first principles of good nursing. Moreover, there are a great many who find the cost of a trained nurse a heavy tax upon a limited purse. And all would like to be able to judge of the competency of one coming in as a total stranger to take charge of their dear ones.

In cases of severe or protracted illness the services of a capable nurse count for more than the doctor's visits. Good nursing without any doctor is more desirable than a doctor in regular attendance with a poor nurse or none at all. The patient depends upon the nurse for cleanliness, pure air, proper nourishment, and almost every comfort. These all go a long way towards promoting the sufferer's ease and restoring health.

In what are considered chronic cases the nurse is really the all-important factor in an invalid's room. No matter how, when, or where the nurse gains experience and becomes skilled in caring for the sick, every family should have one or more who do know what ought to be done and what ought to be avoided in the room of an invalid. The requisite knowledge is now broadcast throughout the length and breadth of the land, so that he who runs may read. Hardly any family is there without at least one, if not more than one, trained nurse amongst its relatives or connections. The writer had two nieces who trained to be professional nurses. Both afterwards married and went to their new duties well equipped for the responsibilities and cares of a family. Before the younger one married she was so much in demand amongst her own relatives that a young married woman of the family proposed that the relatives should "charter her" and retain her services for themselves, because it was always such a disappointment if, when they wanted her, she happened to be engaged on an outside case.

Hints and Directions regarding the Chief Points in Home Nursing

A paid trained nurse in constant attendance upon one family is strictly the rich man's luxury. Even a nurse chartered by several relatives might be needed in more than one family at once. After all, there is nothing so valuable as personal knowledge. It generates courage and independence that money can never buy. Everyone ought to make it a business to learn as much as possible about a trained nurse's duties and be able, if necessary, to do without a professional nurse in all ordinary cases. The following hints and directions will be found useful to all those who desire to inform themselves about the chief points that necessarily should be observed by one who is caring for an invalid, or who has the charge of a case of temporary indisposition:

Temperature and the Use of the Clinical Thermometer

"The normal temperature of the body is 98.4° F. The normal pulse is 72 beats to the minute. The respiration is 18 breaths to the minute." Temperature, respiration, and pulse, these three, give trustworthy testimony regarding the condition of the human organism at all times.

When any part of the system is out of order the temperature immediately registers the fact.

A degree above or below the normal mark, unless induced by some immediate mental cause, such as fright or temporary excitement, is an alarm signal that cannot be ignored with impunity. It is a proof that the fight has begun between the true and the false, between right and wrong, between what is natural and what is unnatural. Everything depends upon *which side* the sufferer *really works with.*

"A rise in the temperature, or an increase of pulse and respiration in a child, is not as important as in an adult. Children, as a rule, have a higher normal mark than adults. Women are apt to have a slightly higher temperature than men." Individual temperament influences, and there is apt to be a slight variation above or below the average according to whether one is an easy-going, placid person or of a nervous, excitable disposition. For this reason it is important for the nurse to know each individual's normal temperature and pulse. Without this knowledge one might mistake a normal for an abnormal condition.

"Before using a clinical thermometer shake it carefully (holding the bulb end downwards), until the mercury falls below the mark 97; then insert the bulb end in your patient's mouth, well under the tongue, make him close the lips firmly, so that no air will enter, and leave it there for a full three minutes. Unless the lips are kept tightly closed all the time you will not get the true temperature of the body. At the end of three minutes remove the thermometer and note carefully the exact number where the mercury stands on the thermometer.

"Before using the thermometer invariably wash it in cold water. After you have finished also invariably dip it in alcohol or some disinfectant solution, to keep it clean and to guard against infection.

"In fever cases the thermometer should be kept standing in alcohol—a piece of soft cotton in the bottom of the glass to prevent breaking it.

Times and Methods

"The temperature of our bodies varies at different hours of the day. It is always higher in the afternoon than in the morning. Its highest point is usually between 4 and 6 P.M. Its lowest point is between 2 and 4 A.M.

"Take your patient's temperature as nearly as possible at the same hour of the morning and evening. Only by observing this rule will you be able to keep an accurate record of the changes of temperature.

"A half an hour at least should elapse after meals before the temperature is taken, because stimulating meats and drinks tend to elevate the temperature for a while.

"For twenty minutes before using the thermometer by mouth the patient should not have a hot or cold drink, or any ice; any of these would prevent your getting the exact temperature.

"Temperature by the rectum always registers about half a degree higher than when taken by the mouth.

"With children who will not keep their mouths firmly closed for three minutes, with delirious or unconscious adults, and in typhoid-fever cases the rectal temperature is more accurate.

"In taking rectal temperature, after shaking the mercury far below 97°, cover the bulb with olive oil or vaseline, and with the patient lying on the left side, insert the thermometer about an inch and a half into the rectum. Hold it there three minutes.

"In the case of a child amuse it or distract its attention to prevent its crying, as that would elevate the temperature."

The clinical thermometer is a very useful little implement, but over-anxious people are prone to use it too much. It is possible to cause or to prolong illness by too much devotion to that small instrument. Avoid subservience to anything, however useful it may be when serving its legitimate purpose.

Taking the Pulse—Seventy-two Beats to the Minute Normal

"The pulse is counted by placing the first and second finger of one hand *lightly* on the inside of your patient's wrist. After pressing gently, but firmly, you will feel in a few seconds the steady beat of the pulse. Time the beat by the watch. Count by the half-minute and double the result, or count for a full minute. It is always best to take the pulse twice in succession to be sure of making no mistake. Sometimes, when the patient is asleep, the pulse may be counted in the temple better than in the wrist."

"In nervous and excitable people the pulse sometimes varies according to their feelings." A capable nurse understands temperaments as well as temperatures. "When the temperature and the pulse rise at the same time and do not subside in a couple of hours, it is almost certain that there is trouble somewhere that may not safely be ignored."

Respiration—Eighteen Breaths to the Minute Normal

"Count the respiration without the knowledge of the patient. If conscious that you are watch-

ing it will be impossible for him to breathe naturally.

"If not distinct during sleep, you can easily feel the rise and fall of the chest by placing your hand upon it. Respiration below twelve or above thirty to the minute is a danger signal that should be watched.

"The temperature, pulse, and respiration taken with the patient in a recumbent, restful position will be more accurate than if standing or sitting.

"During sleep the pulse is a little slower than when one is awake. This should be borne in mind when taking the pulse."

Recommendations regarding the Bed and Its Furnishings

The first thing to be considered is the bed. A firm hair mattress should always be used, with a thin blanket or covering of some kind under the lower sheet. After long service all mattresses are inclined to sink in the middle and become very uncomfortable to lie upon for any length of time. A blanket folded lengthwise and placed under the mattress, in the middle of the bed, or two flat pillows, will overcome this difficulty. When there is much fever a hair pillow will be found, though harder, much cooler than a feather one. A number of small pillows of all shapes and sizes, especially during cases of long illness, will prove of the greatest comfort. You can tuck them in odd corners, under the back and shoulders as a help to keep up the knees and thus take all the strain from the back. They form comfortable resting places for injured limbs, and support the weight of the clothes from sensitive parts of the body. Small pillows made of cotton or wool, covered with cheese-cloth or old linen, answer the purpose quite as well as more expensive ones of feathers or down.

"It is much wiser to use cotton sheets in sickness instead of linen, unless in summer time, as linen is chilly and uncomfortable to a delicate person.

"Three sheets are required in making the bed, also a piece of rubber sheeting, about three-quarters of a yard wide, to be used under the draw sheet. Where there is no danger of the patient soiling the mattress, the rubber sheeting may be dispensed with, as it causes unnecessary perspiration, and if it wrinkles under the patient may even lead to bed-sores.

How to Arrange the Bed

"To arrange a bed for a sick person so that it will be thoroughly comfortable and free from wrinkles, the under sheet must be drawn very smoothly and well tucked in. If your patient is heavy or inclined to restlessness, you will find it of great advantage to pin the under sheet at the four corners with safety pins. Over the under sheet and across the middle of the bed, lay the rubber sheet, pin it at the corners, and cover with the draw sheet, which is a small sheet folded to the width of the rubber and tucked firmly over it on both sides of the bed. The advantage of the draw sheet is that it may be changed as often as may be required without disturbing the patient, and it serves to keep the under sheet clean for a much longer period.

"In putting on the upper sheet leave a good margin turned over at the top to cover the blanket. Instead of a heavy white spread, place over the blanket another sheet or a dimity counterpane. Three points to be observed about a sick-bed are perfect cleanliness, no crumbs, and no wrinkles.

"Where the supply of linen is limited a clean pillow-case can be made to do duty for a double period. Change it at night and hang it out to air until the morning, when it will be fresh for the day. The upper sheet, which is often only crushed—not really soiled, can be straightened, folded, and used for a draw sheet."

I would here add that an invalid may be made to feel freshly clothed for the night and the morning by keeping two nightgowns in use, one always airing while the other is in wear. Give the one that is airing a good sun bath whenever you can. All changes that bring fresh air and the sun's healing powers to a patient are worth more than doctors and medicine and cost far less.

Good advice is found in Eveleen Harrison's practical little book, "Home Nursing": "Crumbs should be brushed off after every meal with a little whisk-broom, and the draw sheet pulled tightly and smoothly two or three times a day, to avoid wrinkles."

The Adjustment of Light in the Sick-Room

"Sunlight is one of the necessities for a sick-room. Even should the windows have to be darkened at the commencement of an illness, as soon as your patient is convalescent plenty of sunshine will be of inestimable value, both mentally and physically. It is a great purifier and healer, and should not be excluded except for especial reasons. If the light is too strong for the eyes, you may tone it by placing a screen between the windows and the bed. If you keep the room dark, or with a 'dim religious light,' your patient's eyes will be weak and delicate for a long time.

"Never allow a bed to face a window, as the light falling directly on the eyes is very distressing. At night darken the lamp or gas by means of a small shade; a newspaper fastened—with a bent hairpin—on one side of the globe nearest the patient answers the purpose. A pretty flower shade can easily and quickly be made with bright-colored tissue-paper cut in the shape of large rose leaves and fastened with mucilage on a piece of stiff net. The leaves must be very full and graduate towards the center. This shade may be fastened by wire on the globe."

Regulating Heat in the Sick-Room

"In very cold weather the sick-room should be kept at an even temperature. Where there is no open fireplace a small gas stove should be on hand in case of emergency.

"A thermometer must hang near the middle of the room, at some distance from the window or fireplace, so as to record the exact temperature, which should be carefully regulated. In ordinary cases a temperature of 70° F. is the best, but where there is much fever, as in typhoid or scarlet fever, etc., the room should not be warmer than 65° F.

"In the early morning hours, between three and five o'clock, the atmosphere is colder than during any other part of the day, and as the vitality of the body is always lower at that time, care should be taken to have extra blankets on hand for the invalid, and if necessary give a hot drink and apply a hot-water bag to the feet. This is especially to be noted with elderly people and in very serious cases of illness." A thoughtful nurse forestalls the possibility of her patient feeling the change of temperature that takes place in the early morning hours.

Ventilation

An open fireplace is a great aid to ventilation. Because of this and the cheerful aspect that it gives, it is always a desirable feature of a sick-room. It can be fed noiselessly by having the coal for replenishing put in paper bags before it is brought to the room or else wrapped in newspaper. In either case paper and coal are placed together upon the fire. A poker of wood causes no noise and is quite as useful as one of iron or brass.

"Ventilation in the summer is helped, when there is no fire, by placing a lighted candle in the fireplace—causing a draught up the chimney—it has the same effect as a fire.

"The bed should stand a little out from the wall on all sides for the air to circulate around it. When the weather is very warm the bed should stand in the middle of the room. A screen protects the head from draughts.

"More fresh air is needed during sickness than in health. When the body is weak the lungs require more oxygen than when one is well and moving about.

"Thorough ventilation may be had in severe weather without exposing the patient to draughts. Two windows facing each other, left open two or three inches at the top, will give a continuous current of air high enough above the bed to prevent a draught immediately upon the patient. When there is but one window in the room it should be open at the top and, if it is not near the bed, at the bottom also once in a while, but never let air blow on the bed's level. Hot air rises, cold air descends; cold air forces the impure air up and out at the window's top. Ventilation may be obtained by raising the window three or four inches from the bottom and placing a piece of strong cardboard or a strip of wood six or eight inches wide over, but an inch away from, the opening. This permits the air to enter gradually in an upward direction. The bed should invariably be protected by a screen. When ventilating is done through an adjoining room, put a screen between the bed and the door.

"This last method of ventilating is done by first filling the room with fresh air and allowing it to warm gradually before opening the door into the sick-room. In cases of bronchitis or pneumonia, where a breath of air is likely to increase the cough, it is wiser to air the patient's room by keeping a window open top and bottom in an adjoining room, and allowing it to enter through a partly open door.

Changing the Air

"Every morning and evening the window should be opened wide for a few minutes—the number of minutes depending upon the weather. Two minutes in some weather will accomplish as much of a change in the air as twenty will in milder weather. Common sense, and not any particular time limit, should govern the duration of the ventilating period. You should always cover the patient carefully with extra blankets and place a shawl over the head and mouth just before and during the morning and evening airing. Afterwards remove the extra coverings gradually. Never, through your carelessness, let your charge get a chill.

"To dissipate an unpleasant odor take a towel or a newspaper in each hand, and wave them to and fro with the window open. This method is efficacious in summer, as it creates a rapid circulation which freshens and cools the room.

"In fever cases it is absolutely important to have a current of fresh air passing through the room all the time; when the temperature is high it is almost impossible for the patient to catch cold. Plenty of fresh air hastens recovery by lowering the temperature.

"The invalid, or anyone who is constantly in the room, cannot judge the temperature or the purity of the air. By entering the room from the open air, or from some other part of the house, the difference in the atmosphere is immediately noticeable."

Even healthy people lose appetite in a close, hot room. By opening the window for a breath of fresh air before meals the patient's appetite can be stimulated.

Strict Cleanliness

Perfect cleanliness should be the inflexible rule in caring for the patient, the bed, and the room. "After the daily bath the hair should be brushed, the teeth and finger-nails cleaned, the bed changed, and all soiled clothing removed. The room should be cleaned as noiselessly as possible and no dust raised. It can be done by using a damp bag tied on the broom or a cloth wrung out of water pinned over it. A slightly damp cloth should be used for the dusting."

All furniture that holds dust should be discarded. Never use a feather duster in a sick-room. It does not remove, but merely disseminates, dust.

"Allow no soiled clothing to remain in the room any longer than necessary. Remove all evacuations also as quickly as possible." It is well to have somewhere outside a disinfectant—a can of chloride of lime is good. Sprinkle a little in the vessels if they have to stand anywhere before emptying. Use plenty of soap and hot water and ammonia for washing bed-pans and urinals. In fever cases they should be also rinsed off with a disinfectant solution. Never permit these vessels to stand in sight when not in use.

"Flowers should not be left over night in the sick-room. The air of the room is purer at night without them and they keep fresh longer if put in a cool place. Flowers can be kept fresh for some time by taking them out of the vases at night and cutting off a little piece of the stem in a slanting direction, then lay them in a paste-board box and sprinkle them"—or else pin them up in newspaper and put them outside the window. They should be covered or pinned to exclude the air.

A screen may be had with little delay and no expense by using a clothes-horse and covering it with muslin, cheese-cloth, or simply a sheet pinned securely with safety pins.

Care of Ice and of Foods

"Where there is no bedroom refrigerator the ice should be wrapped in flannel and placed on a bowl or cup turned upside down inside a large hand-basin; the broth, milk, or jelly can rest in the basin against the ice. The whole should be covered with a towel—a bath-towel is the best—and the basin should stand near a window."

If no miniature ice pick can be had, a strong pin breaks the ice with little trouble. Where there is no little ice-grinder in the pantry and an ice-bag or ice-cap is required, put the ice in a strong towel or bag and pound it with a hammer, but never do this within the hearing of the sick one.

"Water or milk that must be kept in the room should be covered all the time, when not being given to the patient. Broth or milk needed in the night where no ice can be had, may be kept cool by wrapping the vessel in a damp towel and standing it outside the window."

Pillows should be turned often. Never allow them to get hot and packed. They should be shaken in the open air at least twice a day. Avoid jarring patients in doing anything to promote their comfort. Do everything possible away from the bed.

Lifting a Patient

"To raise a sick person while changing the pillows or to draw him up in the bed, let him clasp his arms firmly around your neck, then place one hand well under his back, and lift gently and slowly, while with the other hand you slip out one pillow and put in another."

If possible have two sets of pillows, one set airing and sunning while the others are in use. Keep patients fresh and clean if you would hasten convalescence and minimize their suffering.

"When a patient is too weak to help himself, get assistance. With one person on each side of the bed, each clasping the other's wrists firmly under the patient's shoulders and back, you can raise or draw him up in bed without any strain or fatigue."

This should be learned by practice with a well person, before you undertake it with an invalid. Then there will be no nervousness on the part of the tyro nurse. And here let it be said that nervous, anxious people should exclude themselves from a sick-room. They do no good and often do serious harm. If very desirous to be of some service, they will find plenty to do outside of the

sick-room to help the nurse without ever crossing the threshold.

Never permit your patient to be annoyed by flies or any insects. A mosquito bar can be quickly made by having a hook in the ceiling with a large ring hanging from it, through which a piece of mosquito netting can be drawn and then arranged around the bed. Be sure that it *lies upon* the floor, if you would have it effective.

"Change of position can be accomplished, when the bed is a double one, by keeping one side for the day and the other for the night. If the patient is too weak to roll over alone, you can draw him over on a sheet. With two small beds side by side the change can be made by putting a large sheet over the two beds and allowing the patient to roll over, or you can draw him over on, and with, the sheet."

Changing the Sheets

Changing sheets, with the patient on the bed, requires practice and should be learned with a well person on the bed until you are expert. Make no experiments with the sick one. Have the clean sheets always well aired and in cold weather warmed. Shut the door and windows while the change is being made.

"First change the under sheet. Turn the patient over from you on one side, fold the soiled sheet tightly, in flat folds, close to the patient. Lay on the clean sheet smoothly with half of it folded up against the roll of the soiled sheet, then both can be slipped under the body at once. Tuck in the clean sheet on that side of the bed, then cross to the other side, turn the patient back on the opposite side, gently pull out the soiled sheet from underneath. Afterwards draw the folds of the clean one, pull straight, and tuck firmly and neatly. By following this method the draw sheet, rubber sheeting, and under sheet may all be changed at one time.

"To change the upper sheet loosen all the bedclothes at the foot, then spread the clean sheet and blanket on top of the other bedclothes. With one hand hold the clean sheet and blanket up to the neck of your patient, with the other slip down the soiled clothes underneath right over the foot of the bed; tuck in the fresh bedclothes and spread the counterpane." An expert will do this without uncovering or fatiguing the invalid.

Making and Keeping the Patient Comfortable

No one should ever sit on the side of the bed or lean against it. No one should walk heavily across the floor of a sick-room or the floor above.

"To protect any injured part of the body from the weight of bedclothes without the use of the iron cradles used in hospitals, two or three barrel hoops will answer the purpose, or a round bandbox large enough to slip the injured limb through. Pillows laid at each side of the bed will keep bedclothes a couple of inches above the sensitive part.

"If unprovided with a bed-rest, one may be contrived from a chair with the legs turned upward on the bed. The long sloping back then forms a support for pillows piled in, one behind another, to the top. Put a small pillow under the knees to prevent the body from slipping down in the bed.

"Guard carefully against bed-sores. Some people have very sensitive skins. Even during a short illness continual pressure may cause trouble. The back, elbows, knees, and heels, but especially the back, should be watched closely. The first symptoms of a bed-sore are redness of the skin with a pricking, burning sensation. Bed-sores will be found when the vitality is weakened by fever; indeed, it takes very little in the way of pressure, moisture, or continued dampness, and even wrinkles in the sheets, or crumbs, to produce these dreadful sores. It is far easier to prevent than it is to cure bed-sores. In paralytic cases, and with elderly people, they are most difficult to heal.

"To prevent, as far as possible, any appearance of them, bathe the parts daily with warm water and pure soap, then rub briskly with alcohol to harden the skin, and dust on talcum or bismuth powder to remove all moisture. Guard carefully against crumbs, or wrinkles in the under sheet. Persuade the patient to turn in different positions every two or three hours, to avoid long-continued pressure on one spot.

"With unconscious patients greater watchfulness is required. When there are involuntary evacuations, the clothing must be changed immediately and the body thoroughly washed and powdered.

"The first symptoms of bed-sores should be watched closely and all pressure removed from the part by a judicious use of air cushions and soft pads. Soft pads, made from cheese-cloth filled with cotton, can be boiled every week as well as hair pillows. Rubber rings can also be easily washed.

"Should the skin become broken, stop using alcohol and apply a little oxide-of-zinc ointment or balsam of Peru on a piece of gauze. Protect the place with a pad. If it does not heal immediately, seek special treatment from your family doctor.

Visitors—Convalescence

"No one should enter the sick-room straight from the open air on a cold or a wet day; all should wait elsewhere until their clothes lose dampness and become warm.

"No matter how acceptable the visitor may be, it is necessary to guard against tiring the patient. And under no circumstances permit two people to sit each side of the bed and converse across the invalid. Visitors should occupy chairs so placed that the sick one can look at them without any effort. They should leave *before* tiring the patient."

It is unwise to allow the patient to sit up long during the early stages of convalescence. "Half an hour the first day will be sufficient. After the first day it is better to let the convalescent sit up twice for a short time than to be tired by being up too long."

In these matters the nurse should be watchful to learn just how long a time seems to do the patient good, and insist upon the invalid returning to bed before showing any signs of weariness. "Sitting up in an easy-chair is a more complete change than reclining upon a sofa. It helps to restore the strength more rapidly."

Unless there be some special reason to oppose it, encourage your patient to walk a little more and more every day after convalescence. The legs lose strength during the inactivity of illness and power can be restored only by exercising them judiciously. But the exercise should be taken gradually. Nothing is gained by *over*-taxing the strength, but something is always lost.

Put Yourself in His Place

Give your charge as much fresh air as possible before the first outing. If the weather is cold, wrap a convalescent in blankets with a soft shawl over the head. Then open a window wide and let him enjoy the fresh air and, if possible, a pleasant view. Before closing the window or removing the wraps, let your patient take a walk around the room and find out what the legs are capable of doing without fatigue. Never remove the wraps until the window has been closed long enough to restore the usual atmosphere to the room. Judgment and tact are imperatively necessary in dealing with a convalescent who, when weary of the sick-room and the bed, is in danger of undertaking much that would retard recovery.

No matter how experienced you may be, never allow your charges to suppose for a moment that you intend to dominate them—even for their welfare. Rather give them the contrary impression, if you would influence them for their good and cultivate their docility. Put yourself in his place, should be the motto of all nurses, especially when the patient's will seems opposed to theirs.

TABLE OF INFECTIOUS OR CONTAGIOUS DISEASES

Information for Parents

BY

DR. A. BROWN RITCHIE

DISEASE	PRINCIPAL SIGNS AND SYMPTOMS	METHOD OF INFECTION	REMARKS
Measles	Begins like cold in the head, with feverishness, running nose, inflamed and watery eyes, and sneezing; small crescentic groups of mulberry-tinted spots appear about the third day; rash first seen on forehead and face. The rash varies with heat; may almost disappear if the air is cold, and come out again with warmth.	Breath, and discharges from nose and mouth.	After-effects often severe. Period of greatest risk of infection, first three or four days, before the rash appears. May have repeated attacks. Great variation in type of disease.
German Measles	Illness usually slight. Onset sudden. Rash often first thing noticed; no cold in head. Usually have feverishness and sore-throat, and the eyes may be inflamed. Rash something between Measles and Scarlet Fever, variable.	Breath, and discharges from nose and mouth.	After-effects slight.

DISEASE	PRINCIPAL SIGNS AND SYMPTOMS	METHOD OF INFECTION	REMARKS
Chicken-Pox	Sometimes begins with feverishness, but is usually very mild and without sign of fever. Rash appears on second day as small pimples, which in about a day become filled with clear fluid. This fluid then becomes matter, and then the spot dries up and the crust falls off. May have successive crops of rash until the tenth day.	Breath, and crust of spots.	Examine head for overlooked spots. All spots should have disappeared before child returns to school. A mild disease. Seldom any after-effects.
Whooping-Cough	Begins like cold in the head, with bronchitis and sore-throat, and a cough which is worse at night. Symptoms may at first be very mild. Characteristic "whooping" cough develops in about a fortnight, and the spasm of coughing often ends with vomiting.	Breath, and discharges from nose and mouth.	After-effects often very severe, and the disease causes great debility. Relapses are likely to occur. Second attack rare. Specially infectious for first week or two. If a child is sick after a bout of coughing, it is most probably suffering from whooping-cough. Great variation in type of disease.
Mumps	Onset may be sudden, beginning with sickness and fever, and pain about the angle of the jaw. The glands become swollen and tender, and the jaws stiff; and the saliva is sticky.	Breath, and discharges from nose and mouth.	Seldom leaves after-effects. Very infectious.
Scarlet-Fever or Scarlatina	The onset is usually sudden, with headache, languor, feverishness, sore-throat; and often the child is sick. Usually within twenty-four hours the rash appears, and is finely spotted, evenly diffused, and bright red. The rash is seen first on the neck and upper part of chest, and lasts three to ten days, when it fades and the skin peels in scales, flakes, or even large pieces. The tongue becomes whitish with bright red spots. The eyes are not watery or congested.	Breath, discharges from nose and mouth, particles of skin, and discharges from suppuratory glands or ears. Milk especially likely to convey infection.	Dangerous both during attack and from after-effects. Great variation in type of disease. Slight attacks as infectious as severe ones. Many mild cases not diagnosed and many concealed. The peeling may last six to eight weeks. A second attack is rare. When scarlet-fever is occurring in a school, all cases of sore-throat should be sent home.
Diphtheria	Onset insidious, may be rapid or gradual. Typically sore-throat, great weakness, and swelling of glands in the neck, about the angle of the jaw. The back of the throat, tonsils, or palate may show patches like pieces of yellowish-white kid. The most pronounced symptom is great debility and lassitude, and there may be little else noticeable. There may be hardly any symptoms at all.	Breath, and discharges from nose, mouth, and ears.	Very dangerous both during attack and from after-effects. When diphtheria is occurring in a school all children suffering from sore-throat should be excluded. There is great variation of type. Mild cases are often not recognized, but are as infectious as severe cases. There is no immunity from further attacks. Fact of existence of disease sometimes concealed.
Influenza	Begins with feverishness, pain in head, back, and limbs, and usually cold in the head.	Breath, and discharges from nose and mouth.	Exceedingly infectious. After-effects often very serious and accompanied with great prostration and nervous debility.
Small-Pox	The illness is usually well-marked and the onset rather sudden, with feverishness, severe backache, and sickness. About the third day, a red rash of shotlike pimples, felt below the skin, and seen first about the face and wrists. Spots develop in two days, then form little blisters, and in two days more become yellowish and filled with matter. Scabs then form, and these fall off about the fourteenth day.	Breath, all discharges, and particles of skin or scabs.	Peculiarly infectious. When small-pox occurs in connection with a school or with any of the children's homes, an endeavor should be made to have all persons over seven years of age revaccinated. Cases of modified small-pox—in vaccinated persons—may be, and often are, so slight as to escape detection. Fact of existence of disease may be concealed. Mild or modified small-pox as infectious as severe type.

In the following diseases, only the affected child is excluded from school:

Erysipelas. Child should not return to school till all swelling and peeling of skin have disappeared.

Ophthalmia. Child should not return till all traces have disappeared.

Scabies, or *Itch.* Child should be excluded until cured.

Ringworm on Skin. Child should be excluded till cured. This takes only a few days if properly treated.

Ringworm on Scalp. Child should be excluded till cured. Very difficult to cure and often takes a very long time.

Phthisis (Consumption). If in advanced stage and coughing much or spitting, child should be excluded. (Infection from breath and dried sputum floating in the air as dust.)

Impetigo (Contagious Sore). Child should be excluded until cured. A week or ten days should suffice.

THE IMPORTANCE OF QUARANTINE

BY

THE EDITORIAL BOARD

THE energies of the body are so absorbed by the strain put upon them during the childhood period of rapid growth, and the corresponding period of retarded growth, when life seems at a low ebb, that the resistive force is weakened and the child is subject to what are commonly called "children's diseases." The fact is often overlooked by mothers that this is the most dangerous time of the child's life, after the critical babyhood season is passed, and that child mortality is now at its highest rate—even greater than that of the dreaded second summer.

Needless Sacrifice of Child Life

The apparent inability to avoid these contagious diseases has led to the assumption that the children must have them, and sometimes to the intentional exposure of the children, on the theory that the sooner the illness is over the better. If we would but count the child-deaths and the number of children who carry through life an affliction or a weakness left by the measles, the mumps, or the whooping-cough, we would think twice before exposing any child to any of them. Hardly one leaves the child as healthy as it was before; and weak hearts, weak eyes, sometimes even weak minds may be counted up against them. Though under present conditions it seems almost impossible to avoid them, the mother should not carelessly expose a child to infectious children's diseases any more than she would to the small-pox!

The time will come when these diseases will be treated as is small-pox and they will then be as rare in their visitations. Nearly all large cities now quarantine against them, and mothers should do all that is possible to aid in this direction and promptly report all cases, even very mild ones, in their homes.

But sometimes mothers bitterly resent this quarantine, arguing on the fallacy that children must have these diseases, and objecting to the loss of time from school of the unafflicted children. Such a selfish mother once brought sorrow into many homes by allowing her little daughter, with measles caught from a visiting cousin, to attend school. Although her child had but a mild form, the resultant epidemic was most virulent, and those children who were not strong went down before it.

Rigorous Home Quarantine Should Be Established by Every Mother

Every mother can help to bring about better standards in this direction, as well as to safeguard her own, by establishing a rigorous quarantine in her own home. At the first indication of illness, even in the mildest form, loss of appetite, headache, or fever, the afflicted child should be separated from the other children of the household, and so kept until the disease, if any, develops. If it is diphtheria or scarlet fever, for example, how much is gained. Usually the arrangement of the household will admit of such a child being put into a separate room, and the other children should be given to understand that the separation is necessary both for themselves and for the child who is ill. If this separation is made at the first indication of any illness, there is no reason why the other children in the household, unless they have been previously exposed to the disease, should suffer from it, and even the most contagious disease may be cared for in the nursery and unaffected children remain at home without contracting it.

Precaution Is Always Wise—Prompt Action May Save Life

Nearly all children's diseases start with a rising temperature and loss of appetite. These signs may mean little, but they may also indicate serious illness and nothing is lost by protecting the other children, while the afflicted child will gain by prompt attention and enforced rest. If the symptoms do not yield at once through simple home treatment call a physician, and rigidly adhere to his directions. Delay is dangerous, and experiment may cost the life of the child.

Although extra precaution is, of course, necessary in case of an epidemic in a community, frequently it is almost impossible to tell just how or where an epidemic starts. Your own child may have been exposed by some accident, and be the very first in the community to contract the disease. In such a case you may save other mothers care and anxiety, and perhaps even save the lives of other little ones, by carefully quarantining the case in your own home, even though the affliction may be very slight.

An Opportunity for Mothers' Clubs to Create Public Sentiment

If there are no quarantine regulations in your town, and you know of a case of any one of the contagious children's diseases, it would be a wise precaution to take your own children out of school for the duration of the possible epidemic. If other children have been exposed, the possibilities in favor of the disease spreading more or less are so great that you cannot afford to take the risk. You can fill the school-hours with interesting home occupation, and so perhaps save your own child a lifetime of weakness and yourself a lifetime of regret.

This subject might well be taken up by mothers' clubs in communities where there are no quarantine regulations, and a public sentiment created that will lead to rigid home quarantine on the part of every conscientious mother in the community. Bring the question up at the next meeting of your own woman's club!

THE RELATION OF THE DOCTOR TO THE HOME

BY

DR. RALPH KENDRICK SMITH

WHAT is the relation of the physician to the home? What should it be? Unfortunately, the answers to these two questions are not the same. Preventive medicine is more important than curative medicine, but the average family will not employ a private practitioner to do the more important work. Doctors are paid only when patients are sick. How often do we hear a person say, "I am not quite sick enough yet to call the doctor."

The home is the place where preventive medicine can best be practised. Sanitary science, pure water-supply, sewage systems, hospitals, health boards, etc., are a vital and necessary part of scientific progress; but of infinitely greater importance is the work done in the home. Whatever progress is made in public hygiene and sanitation is of little avail as long as the family life continues to be governed by tradition, and as long as the present custom of inadequate relation with the family doctor is continued. The story of evolution in real preventive medicine is to be told in the home, not in schools of sanitary engineering.

Why Not Medical Inspection in Our Homes as Well as in Factory or School?

In factories, schools, and public buildings, we have official inspectors who make their regular visits and compel compliance with certain definite regulations for the conduct of such places. If these rules are not obeyed, there exists the conventional machinery for enforcing them. But in our homes there is no such inspection, and, even if there were, there is no power to enforce the rules laid down by the inspector. Why is it that health is necessary and compulsory in factory, school, and public building, but not in the home?

There can be, however, an inspector in every home. The family physician should be that inspector. It is not his fault that he is not. It is the fault of the patients who are his employers. People, as a rule, will not pay a physician to keep them from getting sick. They *will* spend all the money they can get for the professional care of a patient who is beyond all human aid. In other words, they will pay the doctor large sums of money for services which do not accomplish anything from the curative or preventive point of view, but they will not pay him anything for those services which are the most valuable, *i.e.*, the prevention of these very illnesses.

The Inspection Plan from an Economic Viewpoint

Political economy teaches that the occurrence of preventable diseases is an economic waste. Therefore, there are inspectors and laws to lessen the public causes of preventable sickness. Why not apply precisely the same rule to domestic economics? Surely, in these days, when there is so much talk of the high cost of living, it is well to consider such a vital phase of family economics as this. Health and strength and happiness, expressed in sordid terms, mean economic efficiency, or, in other words, wage-earning capacity. The prevention of disease and the development of robust health mean increased earnings and decreased losses.

It has become an unwritten law nowadays that intelligent people, particularly in the city, shall get into the habit of going to the dentist annually or semi-annually, whether they think

e is anything the matter with the teeth or
They go for the purpose of inspection.
hout depreciating this custom in the slightest
ee, for it is a most commendable one, is it
pertinent to inquire if the teeth are more im-
ant than all the rest of the body? Inspect the
ı regularly by all means, but do not limit
inspection to this one small portion of the
omy. If one owned a blooded trotting-horse
ed at $20,000, he would have the veterinary
nine the animal carefully and frequently, at
lar intervals. Why? Because he is worth
)00. Is it not rather startling that we con-
r an animal to be worth more than a human
g?

v to Inaugurate This Plan in Your Own Case

ıe simplest way to prove the utility of the
ection plan is for the reader to try it in his
case. Send for the doctor. When he comes,
nish him by informing him that there is no-
sick in the house, and that that is the
on you have sent for him. Ask him to look
house over, and to examine the family as
oughly as he desires. When he has finished,
him to specify those details of the domestic
)lishment which he finds detrimental to
th, and to make what recommendations seem
to put the family in the best way to keep
Then ask him to tell each person he has
nined something of the condition in which
nds him, and to advise what is best in each
according to the specific individual condi-
; *i.e.*, what work, rest, diet, exercise, and
ing are best suited for maximum health and
ency.

doing such a thing as this, you have merely
in your home what you would do in busi-
from a legal standpoint, or in a factory
ı a railroad from the viewpoint of mechan-
)r civil engineering. You have used common
: in obtaining expert advice on technical
ers beyond your own knowledge, for the pur-
of avoiding injury to your plant and pre-
ing break-downs and lessening of efficiency.
unnecessary to tell any business man that a
: which is well looked after, frequently in-
:ed, and kept in thoroughly good repair by
:xpert, will last much longer and produce
: goods and goods of a higher quality than
which is neglected. It is utterly illogical to
to apply this same rule to an individual
)n or to a family.

ıe general practitioner, or the family physi-
as he is called, has become accustomed to
ıding only sick people; so much so that he

would be amazed if employed for such purposes as these. At first, he might even be somewhat embarrassed, but he would most enthusiastically approve of the procedure, and soon get into the routine of thorough and systematic inspection for the purposes of preventive medicine.

This system of preventive medicine, if thoroughly practised, will soon change the whole atmosphere of the home. The family will unconsciously get into correct habits of living. We all fall into ruts of tradition and convention, and pay so much attention to household axioms that it takes some time to uproot the fallacies; but scientific truth in the household can be made very simple and practicable. Let us see what some of the details of this new régime might be.

Details to Which Attention Should Be Paid

First, the house itself. Sunshine, fresh air, dry location, and correct heating may be given as the primary requisites. There should be no sleeping-rooms which do not have sunshine. Chamber windows should be open top and bottom all the year round, if indeed you must sleep in rooms at all—the sleeping-porch is rapidly coming to be regarded as the only healthful place in which to sleep.

This is the dustless age, so carpets are no longer in favor in the best-regulated establishments, polished hard-wood or painted floors, with rugs, being used instead. The vacuum cleaner, for those who can afford it, replaces the broom and carpet-sweeper. The feather-duster should be prohibited by law. Upholstered furniture is rapidly disappearing because of its unhygienic character. Electricity is the only healthful illumination.

In New England, where the present writer has his home, it is generally accepted that as soon as the winter fires are lighted, we begin to have colds, sore throats, bronchitis, pneumonia, and such diseases. The public blames the weather, but the physicians know that the lower temperature has nothing whatever to do with it, as these diseases are utterly unknown in the Arctic regions; while explorers into the Far North are attacked by them immediately upon returning home. These conditions are caused by dust, germs, and dry heat. Every home should be equipped with a hygrometer, an instrument which measures the degree of humidity of the air. These are used universally in cigar cases, because the humidity of cigars is of such infinitely greater importance than the health of women and children! Our furnaces and steam radiators dry the air so much that the moisture from the

mucous surfaces of the respiratory passages is absorbed as if by blotting-paper, leaving them inflamed and an easy prey to the first germs to come along. The hygrometer shows that the humidity in our houses in the winter is less than half of what it should be. This can easily be remedied by placing in the rooms receptacles filled with water in which is suspended a wick in the form of a towel. Many people use the dish of water, but it is of practically no value without the wick, which gives a very large absorbing surface. Many a cough in the winter may be cured by this procedure alone.

The Ill Effect of the Artificial Atmosphere of Houses

Speaking of houses, it is pertinent to suggest that instead of being man's shelter, houses are really the primary causes of a large percentage of our diseases. In other words, animals, brute or human, were not designed to live hived up in an artificial atmosphere where they breathe second-hand air laden with the poisons already thrown off from their own and others' lungs. Outdoor life and exercise are the first essentials of normal physical health, and their lack constitutes the principal cause of disease.

So we must get back to the standpoint of thinking of ourselves and our children as animals in order that we may provide as nearly as civilization permits the environment and benefits which nature supplies. The first principle of such a consideration is that the body is a machine. The second principle is that the proper care of the children means the health and strength and efficiency of the future adult race.

Well-Built Children More Readily Resist Disease—Detecting Variations from Normal Physique

Put these two conceptions together and we have the ideal of trying to raise a race of children whose bodies shall be mechanically correct. One of the most discouraging spectacles to the specialist in preventive medicine is the picture presented by the frail, anæmic, stoop-shouldered, and flat-chested children seen in such frightful majority in our city families to-day. The saddest part of it is that parents seem to have no realization of this state of things. The Good Book tells us that a house built upon a foundation of sand will not endure, and the good physician knows that health built upon a stooping skeleton is insecure. If parents would only realize that broad-shouldered, deep-chested, well-built children successfully resist the invasion of disease, and that poorly constructed children are constant invitations for the propagation of bacteria, we should have a healthier race and a higher average in length of life.

The practical application is that the mother by experience may become quite expert in examining the bodies of her little children as she dresses and undresses them. Every woman has in her mind's eye the ideal of physical perfection as exemplified in Greek art. So it is not difficult for the mother to detect in her child the variations from the normal healthy physique, such as spinal curves, round shoulders, flat foot, flat chest, protruding abdomen—abnormal but frequent conditions.

We know that the tree will grow as the twig is bent, and we find that the child will grow in the direction in which the mother leads it. Consequently, we expect her to train it in correct poise, to teach it to stand and sit in the pride of joyous health. Do not tell the child to throw its shoulders back. That has been preached for generations, but it is a great mistake. Hold the chin up and breathe deeply. Then the shoulders will take care of themselves. Creeping on the floor is the natural locomotion for all animals with four extremities and should not be discontinued with babyhood.

Watch the little naked backs in the bath, see if the shoulders are alike, use a plumb-line to ascertain if the spine is perfectly straight and then test to see if the child can bend as freely in one direction as in another. Feel of the muscles of the back and the legs and arms to see if they are flabby or firm. If they are too soft, and continue so, let the doctor prescribe some specific exercises. If the child seems pale, pull down the lower eyelid to see if the lining is pallid or bright red, as this is the regular test for anæmia.

Watch the shoes for signs of uneven wear. The ankles may be severely injured by continuing to wear shoes after the heel support has broken down. Examine the foot-print. If it shows the whole foot, ask the doctor to examine the feet.

Structural defects, faulty posture, incorrect poise, abnormal gait, and other irregularities of a mechanical character are often amenable to more or less complete cure during their early stages only. In other words, the future health and strength of the people depends to a very considerable extent upon the ability of the parents to detect these defects in their incipiency. If the mother discovers early a condition of this sort she can frequently be taught by the doctor some procedure which will tend toward correction as the child grows older.

Measures Taken to Avoid Direct Infection from Contagious Diseases

The idea is not to have the parent usurp the place of the physician, nor to expect the mother to treat disease, but merely to enable her to catch the first glimpse of the danger-signal in order that she may procure competent advice at the time when it will be most helpful. It is advisable not to fill the mother's mind with fears or with pictures of disease, but instead to cultivate the maternal ideal of robust health and the beautiful mental picture of the vigorous childish body in perfect poise, in order that the slightest departure from this pattern may be detected at once by the loving eye which is thus becoming more accurately observant. Given a well-constructed body in a clean and happy environment, provided with proper food, pure air, sunshine, correct clothing, and trained to regular habits, it is a scientific assumption that disease has no necessary place in the future of this human animal if care is taken to avoid direct infection. The so-called children's diseases, which our grandmothers used to look upon as necessities, are no longer regarded as such. Modern scientific physicians not only assert that children's diseases are unnecessary, but have found that they are a distinct menace to adult health even after an apparently complete recovery. To put it in another way, the disciple of preventive medicine believes that the strength and longevity of future generations are enhanced by lessening the prevalence of the diseases of children. How can a mother prevent her children from contracting epidemic sicknesses? By not taking them into closed cars, nor other public places, nor even other people's houses, when it can possibly be avoided; by washing the hands thoroughly whenever the children come into the house; by abolishing the kissing habit; by keeping the teeth properly brushed, and the cavities filled; by avoiding dust; by forbidding shoes worn outdoors entrance into the playroom; by keeping the nose clean; in a word, by using a reasonable mixture of common sense and modern science.

When to Consult the Physician

When should a mother consult a physician? Whenever she is in doubt; whenever she finds any defect, any new symptom, or appearance of anything wrong mechanically, or in the habits, or sensations, of the child; whenever there is loss of weight, increased pallor, nervous twitching, continual insomnia, persistent loss of appetite, night-cries, night-sweats, persistent bad breath, mouth-breathing at night, continued earache, feverishness, very severe or continual pain in abdomen, difficulty in hearing, trouble in seeing, convulsions, hemorrhage, repeated vomiting, croup, unconsciousness, accidental injury, swallowing of foreign bodies or poisonous substances, or anything else which is evidently a sign of something more than a whim or a transitory indigestion or ailment.

Mothers Should Not Administer Medicine without the Physician's Orders

One would not think in this enlightened age that it was necessary to warn the mother against administering medicine without the doctor's orders, yet the fact remains that millions of gallons of patent nostrums are sold yearly; and in addition to this thousands of parents give their children other home remedies and prescriptions loaned by friends and relatives, or advised by friendly drug-store clerks. Language fails in an attempt to denounce with sufficient emphasis this practice.

In order that the children may give us the best possible material to work upon, most careful attention must be paid to the care of the babies before they arrive at the age which we have termed childhood. This is a subject by itself, but it may not be out of place to suggest that it is poor economy to save doctors' bills at this stage of individual evolution. The best investment that young parents can make is to employ a doctor to advise them frequently and minutely regarding all the details of the care of the infant. The tremendous majority of mothers dismiss the physician after procuring orders regarding the milk, and rely upon grandmother's advice for the rest. This is a most vital and far-reaching error. A young mother is an amateur in the business of raising an infant, and leading it through its paces to childhood. The old tradition regarding the maternal instinct invariably pointing to the correct procedure, was very pretty theoretically, but proved to be quite a factor in the mortality statistics. A physician's directions should not stop with the milk. Few realize to what extent the health and happiness of after-life depend upon the regularity of the habits of the infant's life, and the scientific correctness of its environment.

Joining Forces

"Nerves" are the bane of adult city life today, yet a most potent factor in this alarming condition is the over-excitation of the nervous system during the period of infant evolution. This fault exists more among the well-to-do people than among the poor, because the children of

the former are more spoiled and petted and toyed with. Babies, to be healthy, must be let alone. This is a cardinal principle.

The home, the mother, and the child! This is the wonderful trinity, the hope and the possibility of the health and strength and vigor of future generations. By a rational cultivation of the right principles underlying the problem of the relation between the physician and the home, it would seem that we might help materially a campaign of preventive medicine in a field even greater and broader and more vital than the justly important field of public health. If mother and doctor will join forces it will mean the defeat of the enemy and the triumphant victory of the healthy home, and the robust child; and the glorious sequel, sound and able manhood and womanhood.

DEVELOPING RESISTANCE TO DISEASE

BY

MICHAEL VINCENT O'SHEA

ONE of the most remarkable things in all the world, so the scientist thinks, is the fact that certain animals are "resistant," or "immune," to a disease, while other animals differing very slightly take the disease readily: *e. g.*, the house-mouse is immune to glanders, a disease common among horses, while the field-mouse is extremely susceptible. The rat is immune to many germs which attack his near relatives. Differences of the same kind are seen in man. Some races take diseases more easily than others; and every one knows families that are always sick, whose members take every "catching" disease that is about; while other families in the same community are well and strong, and almost always escape the ordinary diseases. The same thing is true of persons; some people are very susceptible to disease, and in later years speak with apparent pride of the fact that they have themselves had all of the ordinary diseases.

Scientists are not agreed as to the reason for this difference between individuals. "Immunity" may be handed down from one generation to another in the family. Perhaps, also, a person may inherit a readiness to "catch" a disease. We do not know whether this is true or not, but we do know that surroundings, habits, and even ways of thinking do have a marked influence upon the disease resistance or susceptibility of a person.

Importance of Healthful Surroundings

In order to escape disease one must have ***healthful*** surroundings. This does not mean ***elegant*** surroundings. In fact, the life of the rich is quite as likely to lead to ill-health as the life of the very poor. What is really needed is for all of us to live a simple, wholesome life; and it is easily possible for almost any one, even though he be poor, to keep his surroundings so healthful that they cannot do him any injury. This may necessitate moving from one house into another; or changing the rooms in one's house, changing the way one divides his time for work and play, or the like; but these things could be done if the necessity for them were really felt. A good many things necessary to be done depend upon many persons doing them together; but first, people have to be shown that such things are necessary. A great many people do not know that tuberculosis is a germ disease that is "catching" and do not therefore see how necessary it is to take care of the sputum, to disinfect, etc. No child is so small that he cannot help to teach people to be careful about tuberculosis. Children ought to take pride in work of this kind, just as they take pride in succeeding in their school work, or in their games.

Fresh Air Essential, Night and Day

In order to keep well, one must have plenty of pure air. We may speak of this again so as to impress it. Health experts are quite agreed now that fresh air is very important in preventing tuberculosis as well as pneumonia, and certain less fatal diseases, such as influenza (or grippe) and colds. Every one ought to have fresh air in abundance while he sleeps. At the present time evidence seems to point very conclusively to the desirability of sleeping out-of-doors. If this cannot be done, the bedrooms should have several windows, and they should be kept open—fully in mild weather, and sufficiently in cold weather to insure the frequent change of air in the room. During the day, whether at home, in the schoolhouse, or at work, every one ought to insist on a good supply of fresh air. The one who does this has an advantage over the one who does not;

and the former can resist disease which may attack and conquer the latter.

Wholesome Food, Properly Cooked, Regularly Eaten, and Completely Digested

In order to keep well one must also have wholesome food, properly cooked, regularly eaten, and completely digested. Most people can get plenty of good food nowadays; and if they do not know how to cook it, there are many ways by which they may learn. In most cities there are cooking classes. The United States Government also publishes bulletins which are of great value. It frequently happens that people suffer from sickness caused by bad habits of eating, such as not chewing enough, eating too much candy, eating between meals, always eating soft foods, and so on. When such sickness is severe, a doctor should be consulted. It is better to pay a small fee to a doctor who can tell you *how* to live than it is to pay him later for work done at your bedside. But don't take patent medicines, whatever you do. Many people are ailing much of the time because they are constantly swallowing patent medicines.

Children Should Be Trained to Protect Themselves against Colds

If one would escape illness he must be careful of his exercise. Children do not usually need to be urged to take exercise, but they do need to be warned against too much exercise. There is great danger of taking "cold" after violent exercise, and children ought early to learn how to protect themselves from colds, especially those colds that come from cooling off too fast when one has been working or playing very hard. Colds do not "just happen"; they have a cause. Colds are often caused by the sudden chilling of some part of the body, causing the blood which is usually at this part to rush to the nose and throat, resulting in a congestion there.

Colds are also caused by microbes, and such colds are passed on from one person to another. One should keep away from people suffering from colds, especially colds of a "grippy" nature. Colds in themselves are not usually considered serious, but when we remember the inconvenience and suffering which they produce, and the loss of time and energy which they cause, we can see that there is hardly anything more important. Besides this, they have an influence in making people more likely to take diseases. We very frequently hear people talk about a cold running into this disease or that disease; but this is not true. Tuberculosis, for instance, never comes from a cold nor follows a cold, unless the germ of tuberculosis is present. However, colds sometimes do make people so weak that they easily take tuberculosis, as well as other infectious diseases.

The protection of the body is also a matter of very great importance for one's health. A person ought to wear the right amount of clothing, suited to the season. Too much is as dangerous as too little. If one wears too little clothing, the vigor of the body is likely to be lessened; and the same is true if the clothing is too thick. Children, especially, are likely to object to wearing extra clothing, or "bundling up" even when it is absolutely necessary, because it interferes with their movements or their convenience. But they must remember that the maintenance of health is the most important thing in the world to them, and if they do not preserve their health they will bring upon themselves bodily suffering, and cause their relatives and friends care and anxiety without measure. The necessity for this care has been taught by the experience of the race. Why do children persist in going out without their rubbers when they know that they will get their feet wet? Why do they refuse to wear an overcoat or mittens which they need?

Twenty-five "Rules of Health" to Be Considered

One should get into the habit of looking out for his health; in order to do this he ought to consider the following rules:

*Rules of Health**

1. When you arise in the morning throw the bedding over the foot of the bed so that the bedclothes may have a chance to air.

2. Close the window that has been open during the night if you are to dress in the same room. Otherwise it is not necessary.

3. Cleanse the teeth, especially the places that are out of sight and hard to reach.

4. If you have time, bathe all over (finishing, if not beginning, with cold water). If it is not possible to bathe all over, bathe the face, neck, and chest, and particularly the eyes, ears, and nose.

5. Clean the finger nails. This should become a fixed habit.

6. Drink a glass of water. This is a good habit to form, and it seems to aid digestion.

7. Eat breakfast at a regular hour. Eat only what agrees with you. Make an effort to be cheerful at meals.

*Adapted from W. H. Allen in "Civics and Health."

8. Visit the toilet, if practicable, at home. Have some regular time during the day.

9. Spend as much time in the open air as possible. Create an interest in nature. Make friends with sky, birds, flowers, trees, and animals, and be attentive and true to them.

10. Be punctual in all of your duties both in and out of school.

11. Try to have a supply of fresh air wherever you are, and demand this with the same emphasis that you use in demanding sufficient heat in cold weather. Do not be afraid to say: "I need fresh air."

12. Eat punctually at noon. Take time and enjoy your meal and its effects.

13. Breathe air out-of-doors as long as possible, in walking and playing lightly.

14. Resume your duties punctually.

15. Stop work regularly and promptly.

16. Take out-of-door exercise—indoor, only when fresh air is possible—that you enjoy and which agrees with you. If you get "sweaty" in playing, when you stop put on extra clothes or go into the house. Do not court a cold.

Be especially careful to keep your feet dry. If you cannot help getting them wet, make every effort to change your footwear or to dry it out promptly. To take care of yourself and preserve your health is most important. It is not a cowardly thing to do. It is the most important and manly or womanly thing you can possibly do.

17. Eat your evening meal at a fixed time, and do not hurry with it nor eat too much; eat nothing that disagrees with you.

18. Spend the evenings pleasantly in ways that are in keeping with the foregoing habits.

19. Go to bed regularly at a fixed hour; make up for any irregularity one night by an earlier hour the next night.

20, 21, 22. Repeat 4, 6, 8.

23. Turn your underclothes wrong side out for ventilation.

24. Open the windows, or sleep out-of-doors if possible.

25. Relax your mind and body and go to sleep.

Air Space

A grown-up person requires about three thousand cubic feet of air every hour. When the necessary ventilation is secured, the required cubic contents may be reduced to two thousand cubic feet or less. In most homes forced ventilation is not provided for. Figure out the number of cubic feet in your living room and divide it by the number of persons who are usually there. Do you have the required amount of air in your living room?

In the same way find out the air space in your bedroom, and the amount of air for each person in it.

Do you sleep with your bedroom window open? How wide?

Since a room ought to have window space equal to one-fifth of the floor space, find out the size of the floor in your living room and then determine the area of the window space. Have you as much light as you ought to have? Do the same thing for your bedroom.

Does the sun shine directly into your living room and bedroom? For how many hours every day? How much space is there between your own and your neighbor's house?

Standards as to Healthful Conditions to Be Applied to the School

Does the teacher in the room where the children go to school keep the window curtains drawn down over the top part of the window? Unless the sun is shining into the room through the window, the curtains should be rolled up to the top. The room is lighted mainly from the upper part of the window. If water for school uses comes from a well, is the well carefully pumped out and cleaned before school begins in the fall? It should be covered so that dirty water cannot possibly run into it, and so that rats, mice, and other small animals cannot fall into it.

School authorities should provide seats in the school-room suited to the size of the children, so their feet rest on the floor, and so they do not have to stoop over when they sit at the desk, or twist themselves out of shape because the desk is too high. In other words have the seat, desk and child properly matched. If you live in the country, has the school a ventilating stove that brings in fresh air? Is there an outlet for bad air? If not, why not?

THE IMPORTANCE OF KEEPING WELL IN THE WINTER TIME

BY

DR. EDITH B. LOWRY

ONE great reason why there is less sickness during the summer than in the winter is that people live out-of-doors much of the time. They have plenty of fresh air, drink quantities of water, exercise considerably and eat fresh fruit and vegetables, which clear out the system. By fall they are well tanned and in robust health. Then, when the cold days come, down go the windows and people sit huddled up in superheated rooms, gorge themselves with heavy, hard-to-digest food and take little exercise, because it is more comfortable sitting by a nice warm fire than it is out in the cold air.

"Never Mind the Weather"—Get Out and Play

One should begin the winter with the determination to go out-of-doors every day, no matter what the weather. Sometimes on a cold, blustering day it takes considerable courage to venture out if duty does not call, but when one has walked a block regrets vanish, for cold air is very invigorating. A great many mothers would be better off if they would get out and snowball or slide down hill with their children. There is just as much false dignity as there is false modesty in the world, and many adults pamper themselves into invalidism because they think it beneath their dignity to get out and take wholesome exercise.

No one is ever too old to play. Snowballing is a harmless sport that should not be denied even to grandfather and grandmother, who often watch out of the window with wistful eyes. Sliding down hill would benefit the circulation enough to offset the loss of false dignity. Skating is a fine tonic. It begets rich red blood and is a foe to sickness. Children seldom take cold when skating, even though they do have accidents and get wet feet. I have known boys and girls, too, to get their feet soaking wet in ice water and go right on skating. The wet clothing soon dried and the boy or girl suffered no ill effects. The children who take cold when skating usually will be found to be the ones who spend half their time sitting on the banks.

As long as one keeps moving, cold and water do no harm. The good circulation which is produced by the exercise tends to throw off the bad effects. Children will not take cold from wet feet if they will keep running, and as soon as they enter the house remove their wet clothing and put on dry. Colds from wet feet are due to the fact that the child or grown person does not remove the wet clothing when she enters a house, but allows the body to become chilled.

Colds Are "Catching"

Children ought not to be sick in the winter any more than they are in the summer, if they are given the proper care. Let them play out-of-doors, but insist that they keep moving. Whenever they wish to rest, they should come in.

Although the general public does not seem to realize it, colds are infectious, as is shown by the fact that when one member of a family gets a cold, the others soon contract the malady. We speak of an epidemic of colds, and this is a true phrase. Mothers should see that their children go to school well provided with handkerchiefs, and should caution them about loaning or borrowing a handkerchief of their neighbors. This is a too common practice in many schools. Very commonly one child may be heard to say to another: "Let me take your handkerchief a minute." By this means colds are passed from one to another. Not only this, but the germs of other diseases are passed around—loaned—with the handkerchief. In a family the children should not be allowed to use each other's handkerchiefs, but every child should have his own, marked with his initials.

Fresh Air and Wholesome Food

See that the sleeping-rooms are well ventilated and that the children are properly covered. Outing-flannel sleeping suits for both the boys and girls are desirable. These should be made with feet so that, even if the bed clothing gets kicked off, the feet will not be entirely bare. Do not allow the children to go to bed with cold feet. A hot foot-bath at night may save many days' sickness. If the children are inclined to roll around and get their shoulders uncovered, it is well to provide a loosely fitting flannel or wool sack with high collar to be worn at night.

The children's bowels must be watched closely in winter, for they are likely to become constipated. Never allow a day to go by without an evacuation, but do not form the habit of giving a daily laxative. Regulate the bowels by the food. Prunes are an excellent laxative fruit, and should be given to children two or three times a week. Apples are also good for this condition. Graham or whole-wheat bread is better for children than white bread. An excellent bread is made from two cups of graham flour, one cup of white flour, one-half cup of sugar, two cups of sour milk, one even teaspoonful of soda, a little salt, and a tablespoonful of butter. If molasses is used instead of the sugar the bread will have a more laxative effect. If a few raisins or currents are added to the bread the children will like it better.

Children should not be allowed too much meat. Once a day, and that at the noon meal, is sufficient. The evening meal should be light and easily digestible. Coffee and tea are not good for children; neither are the condiments, as catsup and other highly spiced foods. Oatmeal-and-milk makes an excellent breakfast dish during the winter and also may appear at supper. Cornmeal mush usually is relished by the children. These simple articles of diet are better for children than rich pies and cakes. A moderate amount of pure, home-made candy should be allowed, as children need some sweets.

Slight Colds

Do not neglect even slight colds. Get rid of them before they become severe. If a child appears to be catching cold, give him a mild laxative, a hot foot-bath and a drink of hot lemonade, and put him to bed. Nearly always this will break up the cold if taken in the early stages. Watch out for pneumonia with the babies during this cold weather. If the little one has a fever and breathes rapidly, do not delay in sending for the doctor. A few hours may make a great deal of difference in the child's chances for life.

CARE OF THE CHILD WHO CATCHES COLD EASILY

BY

THE EDITORIAL BOARD

EVERY physician, nurse, and teacher comes in frequent contact with the child who "snuffles," stuffs up, and develops a cold on the slightest provocation, especially during the cold weather. It gets over one cold only to fall early prey to another. All too often a chronic cough or bronchitis may develop. In an article in "Pediatrics," Dr. John Hall of England emphasizes the great importance of giving proper attention to enlarged tonsils and adenoids.

Exercises

Whatever may be said in favor of medical treatment for slight enlargements of the tonsils and early cases of adenoids, it is a waste of valuable time to attempt to cure them by this means when they are of long standing. Nothing except surgical interference will do any good, and it is to be noted that the efficient after-treatment is even more essential than the actual operation. Objection has been taken in some quarters to operative interference in tuberculosis cases, but many, on the other hand, believe that in such cases this treatment is even more urgent. Mouth-breathing in any case is a direct menace to the child's health, and in the tuberculous will tend to aggravate the constitutional condition. It should be mentioned that nasal obstruction, from whatever cause, should be at once treated. As soon as possible after the operation the child should begin to carry out respiratory exercises, which must be regularly and conscientiously done for many months, perhaps for a year or more. The aim and purpose of these exercises are to reestablish breathing through the nose, and after, it may be, years of mouth-breathing, this is not easily accomplished. The earnest and intelligent coöperation of the parents is necessary, and much patience, tact, and sometimes firmness are called for. The doing of the exercises must be supervised by some competent person, because exercises not properly performed are of little value. The following four simple exercises are excellent, and will satisfy the requirements of most cases:

1. Breathe deeply and slowly in and out through the nose with the mouth closely shut.

2. Breathe deeply in and out with the mouth closely shut, and one nostril closed by pressing on it with the finger.

3. The same exercises, but with the opposite nostril closed.

4. With arms held above the head, breathe deeply in through the nose with the mouth shut, and out through the mouth wide open.

These exercises should be carried out ten or fifteen minutes twice or thrice daily, but care should be taken not to continue them until the child is tired.

Diet

In addition to the foregoing, the child's dietetic régime should be carefully investigated, and in necessary cases a suitable dietary should be drawn up. The fault may lie in habitual overfeeding, or perhaps in wrong feeding. All cases will be benefited by a modified diet, and in cases secondary to chronic indigestion it is imperative that the modified diet should be strictly enforced. In general terms the reduction of the carbohydrate intake and the interdiction of sweet things are the important factors in modifying the diet. A diet similar to that advised by Dr. Robert Hutchison in chronic dyspepsia in children may be employed. The following should be avoided: Starchy puddings, such as rice, sago, tapioca, arrowroot and cornflower, sweets, sweet cakes, sweet fruits, jam, honey, marmalade, potatoes, turnips, carrots, etc. The diet should consist chiefly of stale bread, dry toast with butter or dripping, eggs in any form, beef, mutton, fish, chicken, bacon, tongue, green vegetables in moderation, custard, plain puddings, stewed prunes and figs, etc. The child should be trained to eat only at meal-times and should not be given anything between meals. Tea, coffee, and stimulants should be prohibited. In the absence of definite gastric symptoms, the restrictions may be somewhat relaxed, allowing more carbohydrate food, and a little weak tea, but forbidding sweet things as far as possible.

General Hygiene

General hygienic measures are of primary importance. These children should not be treated in bed or even in the house, otherwise their apparent delicacy of constitution will become exaggerated. They should be in the open air as much as possible, and should take full advantage of the hours of sunshine. The rooms which they inhabit should have good ventilation, and the windows in their sleeping apartments should be kept open night and day. The clothing should be of such material as to afford sufficient warmth without being too heavy. Outdoor sports, in the absence of any cardiac disability, are to be recommended. Cold sponging is invaluable; for the first few times it may be advisable to employ tepid water, but cold water should be used as soon as possible, and will be found most invigorating. Sea-bathing is also generally good, but is contra-indicated if not followed by a healthy reaction. A change of residence is often beneficial, and the child should be sent to the seaside or country if his home happens to be in a town or city. It is a curious anomaly that a few asthmatical cases may be better in the town than in the country.

ANÆMIA

BY

THE EDITORIAL BOARD

ALTHOUGH anæmia is more prevalent among girls of from fifteen to seventeen years of age, the beginnings of the disease must be sought for two or three years before. Many children show marked signs of it at thirteen or fourteen, and even before, and more than half the cases of anæmia in early youth could be prevented by proper care of the health at twelve years.

Anæmia may be the result of unhygienic conditions at school, because it can be produced by defective ventilation in school-rooms, associated with overwork and mental strain. It may be due to a combination of forces—unsuitable food, lack of fresh air, too little exercise out-of-doors. The mother should understand that in anæmia the red cells of the blood are deficient in quality and in number. These red corpuscles are the oxygen carriers. They grip hold of the oxygen in the lungs, and carry it to the tissues of the body. Now, if you have your oxygen-carriers too few in number, your tissues are starved of oxygen. The signs of this are pallor, breathlessness, and all the other symptoms of anæmia, from headache and indigestion to constipation and sallowness of the face.

The Wise Mother Tries to Prevent Anæmia or Attacks It Early

Anæmia is a very chronic and insidious disease. Once a child is allowed to sink into an anæmic

condition it takes weeks and months to effect a cure. The wise mother *prevents* anæmia, or attacks it from the very beginning. She says to herself, "Why is this child anæmic, and how can I alter conditions so that she may regain health at once?"

The blood of a child with anæmia lacks iron, so that an iron tonic, under the direction of a doctor, will have to be given in all cases where the anæmia is marked. The drug in itself will not bring about a cure. The child's blood-cells will not recuperate unless you put her under hygienic conditions. The one thing she requires is fresh air. A mother can make inquiries in a tactful way as to the ventilation of a school. She can see that the child has fresh air day and night in the home, at any rate. She can make arrangements so that the small patient can be out-of-doors for a maximum number of hours daily. Then the diet and digestion will require careful attention. Anæmia is frequently associated with indigestion.

The anæmic girl requires a good deal of milk, and fresh fruit may be given at the same time to counteract constipation. Porridge and cream, and stewed prunes, figs, apples, etc., are suitable breakfast dishes. Brown bread, well buttered, is preferable to white. Avoid stuffing the child, with the idea that you are going to nourish her. Digestion must be humored a little at first. Otherwise the food given will not be digested. One reason why milk is so valuable in anæmia is that if it is sipped slowly, and perhaps given warm, it is one of the most easily digested of all foods. So rely upon milk to "feed up," in the early stages at least.

Meals should be light and easily digested. The child will require a good deal of meat, and red meat sandwiches are among the best ways of giving the meat. Some preparation of bone-marrow is invaluable, and fresh vegetables are necessary in the diet. A simple aperient should be given as required. This will be less necessary if exercise out-of-doors and proper diet are provided. The appetite must be stimulated by exercise in the fresh air. Let the anæmic child go in for organized games; let her—the girl is more frequently subject to anæmia than the boy—practise physical-culture exercises which entail bending of the body and exercise of the legs.

The anæmic child may not be able to react after a cold bath; but a daily tepid sponge may be tried while the child is standing in warm water, and a modified cold douche to the spine may easily be managed by pouring pitcherfuls of cold water down the back. The water may gradually be reduced in temperature day by day.

Lessons Will Have to Be Cut Down and Sleep Increased

If a child is very anæmic the lessons will have to be cut down, because the anæmic brain is not fit for much mental strain. A child with anæmia is working under a brake, and is handicapped in a way that the healthy child cannot comprehend. If the work is carried on the strain is very great, and headaches are frequent. The lessons can be better accomplished if ample sleep is provided. The young, growing child requires an abundance of sleep in order to give the brain time for recuperation. Early bedtime must be the rule, and no lessons should be done late at night.

It is found sometimes in older children that anæmia is associated with the wearing of tight clothing and tight corsets, and although children's garments are not usually very tight, care should be taken that nothing is worn likely to press upon the ribs or waist, as it would constrict the breathing and prevent proper expansion of the lungs with fresh air. Clothing should be loose and warm and not too heavy. Some people imagine that fairly tight garments are warmer than loose ones, but the very reverse is the case. A loosely-woven and loosely-fitting garment holds plenty of air in its meshes, and this keeps the body warm.

The anæmic child feels cold easily because of the defective quality of its blood. The measures we have described will stimulate the circulation, improve the blood, and increase the vitality generally. One thing the mother should remember is that anæmia should not be neglected. It is not a serious disease in itself, but the anæmic child is fifty per cent. more liable to contract such ailments as rheumatism, bronchitis, and pneumonia than the child whose body is being nourished with healthy blood.

Fortunately, the signs of anæmia can be recognized by the mother almost as well as by the doctor. Pallor is the most striking feature. The lips and gums are pale, as well as the face, and the child has a delicate appearance. The flush of health is one of the rights of childhood, and no mother should neglect the warning flag of anæmia.

THE NERVOUS CHILD

BY

CECILIA FARWELL

"My baby is a perfect bundle of nerves," said one mother to another. "She is so sensitive, she starts at the slightest sound. She sleeps only a few minutes at a time, and has to be walked or rocked to get her off again. She won't go to strangers, and I am a nervous wreck taking care of her." "My baby hasn't a nerve in his body," replied the friend. "I lay him in his crib after he has had his bottle, and he goes right to sleep or gurgles at his fingers."

Both mothers were wrong. Each baby had exactly the same nerves to serve its body, and the same chance to grow up with a strong nervous system. The fretfulness of one was due to indigestion and poor training, and the placidity of the other was the result of a comfortable stomach full of good food, and a restful position.

Nervous energy, which is the will to do and achieve, is the result of well-nourished and well-trained nerves, but nervousness, which generally means irritability, insomnia, worry, and a tired feeling, is the result of badly-nourished and badly-trained nerves.

Contending against a Handicap

Some children, it is true, come into the world handicapped by a bad heredity. Parents who at their children's birth are suffering from tuberculosis, syphilis, gout, or alcoholism, give them a very weak nervous system in comparison with the nerves of children of healthy parents. Such children may show no signs of nerve weakness until adult life; then if they undergo some severe strain, such as the fatigue of overstudy for examination, severe pain at childbirth, an operation, a great shock, or prolonged worry or financial strain, they may suddenly go all to pieces, and fall into a neurasthenic state from which it is difficult to rescue them. This, however, is not sure to happen. But it is possible, and when people who have apparently been strong break down utterly under these common happenings of life, their physicians consider that, if their heredity shows one of these diseases, the cause has been found.

But just as children of tubercular parents are less likely than ever before to contract tuberculosis, on account of the extra care given them to have them live and sleep in the open air and be always very well-nourished, so children with this inherited nerve weakness are now being brought up with outdoor occupations and training that involves muscular effort and induces long sleep, instead of being pushed to excessive book-study, night hours, or positions that imply confinement and strained attention. Taking it for granted that the delinquent children of the poor will have inherited a poor nervous system as a result from some one of these all too prevalent diseases, they should be trained almost exclusively for muscular and outdoor employments. The intelligent man or woman, knowing that a child has a poor nervous inheritance, must be guided by the nerve specialist as to his successful career.

But those with inherited difficulties do not come within the scope of this article. The question that interests us is, how can the majority of babies be brought up so that they will not have nervous headaches, sleeplessness, bad tempers, weak or hysterical natures, fussiness, timidities, or any other sign of nervousness, but will have sef-control, calm natures, and an adequate amount of nerve force to carry through whatever they undertake?

The Golden Age—What Is to Prevent It?

Promise the nation that thirty years from now ninety per cent. of the young citizens born last year shall be men and women of this strong nerve caliber and you promise the Golden Age. But what is there to prevent? There is land enough, food enough, education enough, opportunity enough for every one of last year's babies and those to come. It is only a question of who shall train the children to use their nerves and how they shall be trained.

Dr. G. Stanley Hall, in his "Educational Problems," states that he believes America to be on the verge of a great period of awakening, a renaissance of physical perfection which, he holds, includes moral perfection. "To be sure," he says, "there have been sickly geniuses, or men of talent, who have overdrawn their vitality, but the real raw psychic stuff, the protoplasm out of which nearly every form of greatness and success is made, is the superfluous vigor given by an extra good stomach, heart, lungs, strong nerves and muscles. This appears in childhood as animal spirits, the rapture of being alive, which is the greatest joy on earth. It makes the

feelings in which we live, move and have our being not only vital but virtuous. Only he who is well, strong, can face the world with dauntless courage and resolution to do and suffer, will not collapse under the sudden strain so liable to-day, or decline into the easy life of refined invalidism."

Nerve and Muscle "Ideals"

The mother is the one on whom the nerve training naturally falls. She has always believed that she was responsible for her child's growth in weight and for his neat appearance and for his morals, but when she has provided him with food, clothes and good manners she has felt her duty well done; but the age that demands so many workers, teachers, leaders, and heroes demands more than this of her. It demands that she shall conserve and develop her child's nervous energy for its best work in adult life.

A father's chief interest in his boy's development seems to center about his muscles. He puts his baby through exercises in his first frolics, and plans to teach him at an early age to swim, fence and ride horseback. He does not expect him to become an athlete through talking about it, but he plans to keep him at regular exercises for fifteen or twenty years. He selects his school with a view to physical and muscular development. He promises the little chap rewards for certain feats, he feels his muscles, he boasts modestly to his friends of the boy's prowess. He never bemoans in the lad's presence any physical weakness of his own which he fears he may have inherited, but he keeps always before his own eyes and the child's a vision, an ideal of the splendid thing it is to be strong in muscles, a winner, an honor to his school or college.

This is the keynote for the mother of to-day. Strong nerves, self-control, endurance, the will to do, must be the ideal that she sets before herself and her child, side by side with the father's ideal of fine muscular development. He should hear as much about "nerve" as he does about muscle, and he should have as great a shame for showing "nervousness" in any of its popular forms as of not being able to catch a ball. But when and where shall she begin?

Six Months Ahead

One celebrated mother of five sons who grew to be distinguished men said that when the youngest was born she determined to take a six months' rest from baby training and then put through whatever discipline he required. she concluded, "when I began he had a six months' start and he has been six ahead of me ever since."

Some maintain that a baby's training should begin at a month, some at birth. As a matter of fact, it should begin long before. For the production of good nerves is at first a matter wholly of the mother's systematic care of herself. It is she who must go into training. Grecian women about to become mothers ungirdled their waists, rested, strengthened and refreshed themselves in body as well as mind by music, beautiful sights and uplifting pleasures. To-day much is said about prenatal influence. It does not lie within a woman's power to make a child musical by continually going to operas, or an artist by gazing at works of art, unless there is a musical or artistic inheritance in the germ cells, but it does lie within her power to give him strong, sound nerves with which to develop any talent he may inherit.

Nor does it follow that a child will be nervous and high-strung because the mother went through great anxiety or sorrow before its birth.

The Things That Count

The only things that count before birth are food, sleep, and fresh air for the mother, and to get these in a regular, systematic way involves self-discipline as exacting as the training of a foot-ball team. The tears she sheds, the fears she feels, the miserableness she may undergo, all count as nothing if she can eat and sleep well, but as they are apt to affect her appetite and rest it is well to study to be happy, for she is in much better condition to enter upon the even stricter self-discipline that comes after the baby's birth.

She then not only has to go on cultivating an appetite for juicy chops, steaks, milk, gruel, and everything that will make her body strong and her milk nourishing, but she must establish a systematic regularity unknown before in feeding the baby. Not only must she get her own sleep as regularly as possible, but she must teach the baby to sleep regularly.

The nerves of the baby's stomach are practically the first nerves to be very active. If now the mother cries, mopes, gets into tempers; is worried or sleepless; takes too much tea or coffee, stimulants, or indigestible food, the milk will be poor and the baby will not be well-nourished. The nerves of its stomach will teach it hunger sensations. It will not sleep and all the nerves of the body will suffer. The nerves of the intestines will develop pain reactions, called colic, due to wind accompanying poorly digested food. If the nursings are irregular then a full stomach at one time and an empty one at another disturbs the rhythm of work and rest which the nerves

of the stomach need. Good food given regularly is therefore the first and most important thing in the upbuilding of the baby's nervous system.

When the nerves are constantly nourished by good red blood, they will grow strong and healthy in tone. They must now learn their rhythm of rest and activity. Sleep must come regularly. It is surer to come out-of-doors or in a cool, well-aired room; therefore, if possible, let a baby almost live out-of-doors.

One of the earliest reactions a baby shows is that to motion. This is probably due to its swinging movements before birth. Many a mother has noticed when nearing her term that when she lies down her unborn offspring plainly indicates that it does not like the pleasant swaying movement of walking to cease. It jumps and bounds and kicks, and sometimes will not let her sleep for an hour or two.

When the Baby Cries He Should Not Be Carried About

After birth a baby will generally stop crying if picked up and rocked or walked, and because crying is disagreeable some mothers avoid it by walking the length of their city through their bedrooms. This desire for motion, which may easily be forgotten in the first few days of a child's life if it is not handled much, forms a bad nerve habit which if indulged leads to serious results. It trains a baby to expect to be held, to have some one constantly in the room. As it grows older it will not go to sleep alone, it will not play alone. Its mother or nurse being always present, it develops no self-reliance. Many such babies that were hurriedly picked up and soothed when they were two months old have never ceased to hold the whip hand over their families. Screams and rages in childhood, tears and outbursts of irritation in youth, have always brought nerveless parents to terms.

But the disciplining of babies to sleep when put into a crib and to lie still between times is a subject that frightens a young mother. A baby cries when it is hungry, when it is sleepy, when it is wet, when it is chafed, when it is too hot and bunched in its clothes, when its feet are cold, when it has wind in its stomach or a pain in its abdomen, and when it has nothing else to do. All of these possibilities down to wind can be speedily eliminated. Patting and peppermint water will bring up the wind, a hot-water bottle and warm enema will dispel the pain, if needed. If the baby still cries it is probably because it would like to be spoiled, and it generally gains its point unless the mother has enough self-discipline to realize that only by teaching the baby to associate his pillow with comfort and relief can she train his nerves to the rhythm of rest.

Screams do not indicate nervousness on the part of a very young baby. But associating some result with screams indicates a nerve reaction. The Indian baby has his nose held when he screams. The Chinese baby's mouth is covered. Both learn their first important lessons in nerve reaction, voluntary inhibition—that is, they learn to stop themselves from screaming.

Baby Tyranny

Among the numerous children whom we have seen grow up we have noticed that those who showed that peculiar irritability and lack of control that is put down to nervousness were children whose tyranny was cultivated from the time they were a month old. A mother who never wearied describing her self-sacrificing care in bringing up a "nervous" daughter, whom every one else called bad-tempered and spoiled, said: "She was so cute when she was only a year and a half old. If her nurse would not give her something she wanted, she would say 'I k'y,' and then would go off into a perfect pandemonium of screams. She knew we could not let her scream —she was such an extremely nervous and delicate child; but who can wonder, for I am all nerves myself."

No one could wonder who had known this mother, from the days when she had wrecked her health pampering and humoring this baby. Since then not a day had passed but the child's nerves had been discussed and excused before her, by this mother who had scenes with the servants, scenes with her husband, scenes with the child; no wonder indeed that the child was nervous, but the point is she did not inherit nervousness. She was systematically trained into it by the mother's conversation and example. As a contrast, the healthful effect of regular training on the nerves is that the baby responds automatically to all nursery care. He eats, sleeps, is dressed, goes out without question. To accomplish this before three years of age he should never be asked to do anything that he must do. Choice, coaxing or insistence only teaches a child that he has the possibility of refusing to be put to bed or to eat his food. The nurse who tells the mother before him that he does not like oatmeal or that he will not let her put on his shoes is doing untold harm to the child's nerves, because the child immediately appreciates that his will is recognized, and is prepared to do battle. Then follow those nursery strifes and discipline that ought only to occur in connection with wilful naughtiness.

Rhythm of Functions

A child whose body is accustomed to a definite rhythm of functions and responds automatically to the signal for food, baths, sleep, gets the habit of obedient responses deeply and firmly established before three or four years of age, without any rasping of the nerves.

Any disease from which a child suffers puts a serious strain upon the nerves, therefore every possibility of disease should be eliminated. Adenoids, enlarged tonsils, tubercular glands should be removed. After any attack of tonsillitis or contagious disease, however light, the child should have a change and be built up, to repair the ravages which are felt longest in the nerves.

Childish Fears

Childish fears have the worst possible effects on the nerves. If children have already heard of the bogy man, or the omnipresent devil, or wild animals that eat children, or policemen who are always ready to take them away, it is useless to hope that they can forget them. But by the constant telling of stories of good animals and kind policemen, and avoidance of threats, the nervous fear may be overcome.

It is poor policy to argue a child out of his fears. Discussion only intensifies them. But stories pointing out how other children saw the origin and folly of the same fears will teach him, without mortification, to overcome them. A fear which a child is ashamed to own gives the child as much pain as a fear constantly expressed, but the child's reticence is a sign of nervous strength.

Orderliness in the Home

Another forward step in training a child's nerves is for the mother to form the habit of anticipating not only how to deal with quarrels and disobedience, but preparing in advance every detail of the child's routine.

Without this careful preparation, putting clothes in their place, removing spots, taking stitches, a mother cannot get several young children ready for a walk or off to school without tears, which are but the outward sign of the nervous excitement every child feels while their elders are looking for lost articles, blaming the loser, jerking, scolding, and refusing simple requests. In the calm, well-ordered household the child is taught by example to anticipate the details that make the day go smoothly, and will in later years be able to know how to carry through large things in life without the waste of nervous energy that comes from rushing to the morning train; eating hasty, irregular lunches; and being late for appointments.

Let the Child Alone at Certain Hours

Perhaps the most important thing in the strengthening of a child's nerves is to be let alone. A very well-brought-up small boy, when asked what he would like for Christmas, replied: "A half hour to myself." Wise children who have the freedom of country life, make themselves scarce after school, for their presence is likely to suggest errands or forgotten duties; and they long for their uninterrupted freedom as earnestly as their mother longs for a quiet hour in which to write letters. Beginning with the baby who is laid on the bed with his hands for playthings, then put in a pen on a blanket on the floor with a small ball, then left in an empty corner to drag a little cart or build block houses, the more a mother can leave the child free at certain hours the more strong she will find his nerves become.

Probably the reason why children who grow up in the country or in a suburban town are less nervous and "jumpy" than the town child who gets just as good food and often just as much air, is because the out-of-town child has more freedom of action in its recreation. All his social functions of being properly dressed and mannered are reduced to a minimum. He puts on a cap and sweater and may play out till dark, instead of being obliged to wrestle with grown people over what he considers unimportant trifles. Nearly all children who have a carefully supervised daily schedule are nervous. Their salvation lies in long, uninterrupted play, as well as in long, uninterrupted sleep.

What the race needs is wise mothers with well-trained nerves who will feed their children well and educate them so that no nerve force is wasted in performing the necessary bodily and social functions, so that there is no external expression of fear, worry, haste, excitement over trivial and avoidable happenings, and so that there is leisure and quiet for the child to develop in his play nerve-energy that will one day pass over into his life-work.

BETTER BREATHING FOR BOYS AND GIRLS

BY

THE EDITORIAL BOARD

THERE is no doubt that breathing is a neglected art, and this fact is responsible for a very large percentage of colds and sore-throats. The child who has learned how to breathe has acquired a health-measure that will be invaluable all through life. Half the cases of delicate lungs are due to defective breathing, and the mother who undertakes physical culture in the nursery should for the next week or two pay special attention to the encouragement of deep breathing.

Pure, Fresh Air Especially Important for Children

Once children are taught to breathe, their vigor and vitality will improve in a most remarkable fashion. The girl who breathes as she ought to will escape round shoulders at the awkward age. The boy with adenoids will, in the early stages, at any rate, have the condition cured without operation by a systematic course of breathing exercises. Deep breathing is one of the best preventives of consumption, while a good digestion, a graceful carriage, and a happier and healthier mind are some of the most desirable results that proper breathing will provide.

Before touching upon the question of *how* to breathe it must be most emphatically stated that the only thing children should be allowed to breathe is pure, fresh air. We can provide it for them in the home, at any rate. We can see that their nurseries and bed-rooms are flushed with fresh air by opening the windows wide perhaps twice a day. We can make it an unbreakable rule that the window is to be open by night all the year round. Then let us teach them deep-breathing exercises in the fresh air as much as possible. During the winter months in wet weather they can perfectly well practise the exercises in a well-ventilated nursery. Whenever possible, at all seasons of the year, let their classes be held out-of-doors.

Now, it is very important in these exercises to notice details, so that the lesson should be confined to three or four children at a time. It is easy to see, in a class of small size, when one child breathes by the mouth or makes a wrong movement with the arms or body, because he gets out of line; but it is much more difficult to guard against errors in breathing when a large number of children are practising together.

Some Rules for the Children to Learn and Repeat

Before giving anything in the shape of exercises make the children learn and repeat the following rules:

(*a*) Breathe by the nose all the time.
(*b*) Keep the mouth shut.
(*c*) Breathe deeply.
(*d*) Breathe quietly.
(*e*) Keep the head up.

Once train the children to follow these rules, and you will go a long way in the preventing of nursery colds and catarrhs. Mouth-breathing is so common that it is difficult to understand why mothers are so careless in this respect. If they could imagine the ill effects upon all the respiratory passages and on the lungs they would take a good deal of trouble to induce every child in the nursery to keep the mouth shut.

The first lesson should consist in explaining the rules to the children. Tell them they must rigidly follow them and notice particularly any child who seems to find it difficult to breathe by the nose. If, after a few lessons and exercises, mouth-breathing is still persisted in, then the child should have the nose and throat examined for any obstruction.

Breathe Deeply—Simple Exercises

Daily practice for even five minutes at a time will help very much to establish the habit of deep breathing. A simple exercise, such as the following, should be practised:

Make the children stand with hands on hips, shoulders braced, and head well up. There must be nothing stiff about the position, and if the children are more comfortable with the hands hanging by the side, they should be permitted to take up that attitude. Now, at the word of command, they must take a deep breath and hold it until told to "let go." Slowly and deeply they inhale and slowly and quietly let the breath go. The risk with children, as with adults, in exercising for deep breathing is that they get themselves into a condition of stiffness or tension. To obviate this, the following exercise is splendid:

Let the children sit on a bench, or each child

on a chair. They should have the head bent forward and the arms hanging. Tell them to imagine that the hands and head are very heavy. Now give the order, "A deep breath," and teach them to raise the head and the shoulders slowly, and lift the arms until they are in their lap. When every child has the head well up, shoulders braced, and holding the breath, say, "Let go," and head, shoulders, and arms sink down again.

Note the effect of this exercise upon the spine. It is relaxed and braced alternately, and the spinal muscles are provided with exercise and movement. It is a valuable exercise to teach a child how to relax. You know how nervous children seem always on tension, with their hands gripped and the muscles of their necks strained, their jaws clenched whenever they are at all excited. These children need relaxation exercises, and this is an excellent one for them to practise.

Soothing Effect of Deep Breathing

The Orientals, who practise repose from the beginning, escape the restlessness and anxiety which characterize so many people, even in childhood, in this country. One of the advantages of deep breathing is that it soothes the mind, and anyone tempted to get into a passion should take a few deep breaths. The sedative effect is very marked.

Another procedure the mother or nurse might follow is to make the children stand in a row, and let each in turn repeat the rules. Then make them take deep breaths, with hands on hips, as already described. The next thing should be that they take a deep breath while raising the arms high above the head. After pausing while the teacher counts four slowly, they bend the body at the waist and lower the hands until they come towards the toes. At the same time the breath is going out. This exercise might be repeated six, eight, or ten times, depending upon the amount of practice the children have had. Then practise breathing first with one nostril and then with the other. The children, of course, must hold the hand against one nostril while breathing with the other.

Musical Accompaniments Have a Soothing and Happy Effect

Now the exercise in relaxation described above may be tried, and it will take a great deal of practice before the children relax in the right way. Some children are extremely stiff and some incapable, without a great deal of teaching, of relaxing their muscles to order.

The expression of the face is a good indication as to whether the child is exerting too much tension. The children ought to look as if they are enjoying it, and yet show no sign of strain and excitement. The reason why so many people feel tired after physical exertion is that they put too much nervous force into the action. One reason why music is a good accompaniment for exercises is that it has a soothing and happy effect upon the mind. The clever teacher takes great care to see that the children enjoy their exercises.

One of the best ways of averting an argument or quarrel in the nursery is to suggest deep breathing at the psychological moment, to take the children's minds off the cause of annoyance. A regular lesson should be held daily, but every now and then during the day one or two minutes should be spent in practice. Gradually the habit of deep breathing is acquired. Its health value can hardly be over-estimated.

THE PHYSICAL AND MENTAL EXAMINATION OF CHILDREN

BY

CECILIA FARWELL

Our "Chart of Child Development" emphasizes the importance of making a careful physical examination of the growing child. Often a tendency to spinal trouble or to hip-disease may be corrected, if it is taken in time; and by carefully noting the physical condition of the child, the mother may find indications of trouble that would escape the notice of the physician. The physical examination of the child should be made when he is without clothes, that the mother may be able to judge of proportions—height of shoulders, length of limbs, etc. In case of any serious tendency to unequal growth or abnormality a physician should be consulted at once.

The mother should also test the development of the child's senses (sight, touch, hearing, taste, and smell), making sure that there is no deficiency or disease. All of these are of utmost

importance, and any slight trouble, if taken in time, may be corrected. The mental condition of the child who seems normal, and yet is nervous or "queer," may be due to a physical condition that needs attention. The powers of attention, observation, and expression may be greatly improved by the mother's realizing that they need special care. The following list of questions may suggest to the mother some of the ways in which her children may need care and attention:

A. General Appearance

Does your child look strong and well?
Is his color good?
Is he physically well-developed?
Does he stand correctly?
Has he a good sitting position?
Are his shoulders even?
Does he walk straight, without swaying from side to side?
Are his shoe-heels worn evenly?
Is his physiological age equal to his chronological age?

B. Mental Condition

Is your child mentally alert?
Does he see the things which go on about him?
Do birds and butterflies and trees and flowers interest him?
Does he answer ordinary questions intelligently?
Does he play normally?
Does he "hold his own" with other children?

C. Nervous Condition

Is your child good-tempered?
Is he free from abnormal emotion?
Does he cry easily?
Does he bite his nails?
Does he have good power of muscular co-ordination?
Has he pronounced peculiarities, such as inability and timidity in reasoning, embarrassment, or general tendency to misbehavior?
Is he given to moroseness or melancholy thoughts?
Does he go away from other children and give himself up to day-dreams, and act unhappy when he is disturbed?
Is he apparently free from sexual bad habits?
Does he have bladder or kidney trouble?
Is he usually free from headache?

D. Teeth

Are your child's teeth clean?
Are they white or yellow?
Are they sound and strong?
Are the six-year molars in good condition?
Has your child been to a dentist within six months?
Does he use a tooth-brush thoroughly twice a day?
Are his teeth regular?
Is the jaw correctly formed?
Are the gums free from abscesses?
Are the upper front teeth straight and not prominent?
Have the decayed teeth been filled?

E. Nose and Throat

Does your child breathe with his mouth closed?
Does he snore?
Is he free from nasal discharge?
Is the resonance of his voice correct?
Has he a well-developed face?
Is his chin "weak"?
Is he sometimes dull and stupid?
Does he stare at you vacantly, with open mouth?
Is he usually free from sore-throat?
Is his hard palate normal, or soft and narrow?
Is his hearing good?

F. Ears

Does your child respond to the first calling of his name?
Does he respond to questions or instructions without asking "What"?
Is he attentive?
Does he seem to be interested in sounds—such as the singing of birds, the chimes of bells, or unusual but not abnormal daily sounds?
Does he have an expressive voice?
Can he read aloud with some expression?
Does he spell fairly well?
Have you tried him, to see how far he can hear a watch tick?
Is he free from ear trouble?
Is he free from any peculiar postures that might indicate deafness, such as quick lifting of the hand to the ear, leaning forward intently, or lack of interest in the things around him?

G. Eyes

Are your child's eyes straight?
Does he frown when his interest is centered, or when he is asked to give special attention?
Is he free from chronic headache?
Does he hold his head up?
Does he look you straight in the face when you speak to him or when he talks to you?
Is he interested in the things of the world about him, such as animal and plant life?

Does he quickly perceive the colors in sky and cloud?

Does he walk and run with self-confidence?

Is he free from postures that might indicate eye defects, such as leaning over too near his work, holding his head on one side, or "rubbing his nose on the book"?

Are his eyes free from redness or discharge?

Are his eye-lids healthy looking?

H. Skin

Is your child's skin firm and white?

Is he thin-skinned, bleeding too easily?

Is his head free from disease or parasites?

Is there any sign of ringworm?

Is the skin of his face and hands free from eczema?

Does his skin chap and chafe too easily?

Is there any tendency to excessive perspiration?

I. Contagious Diseases

Are you quick in observing indications of possible approaching illness?

Is your child given to unaccountable lassitude?

Is his food properly digested?

Is his food nourishing?

Are the bowels and kidneys regular?

Do you sometimes examine his stools to make sure that nature's work is going on properly?

Are his eyes bloodshot and congested?

Does he cry too easily?

Is there a discharge from the eyes?

Is there a nasal discharge?

Is he given to irritable fretting or screaming?

Does he sleep well?

5. Sense Training

HOW TO KEEP THE CHILDREN'S EYES, NOSE, EARS, AND TEETH HEALTHY

BY

DR. S. N. MERRICK

As we have received bodies of extreme complexity and fineness, it behooves us to take special care of each local bit of the delicate mechanism, that we may preserve the machine intact, and keep it up to the highest mark of efficiency. Each one of the many millions of highly-differentiated cells that make up our bodies is an intelligent workman, and in sympathy with each and all of its fellows. We may indeed say that they present a perfect example of a labor union. Through a system of neuro-telegraphy each local union is in close communication with all other locals having a similar function; and these together acknowledge some larger local brain as chief. The solar plexus, for instance, is in command of all nutritional unions, while the center for the special senses is located in the head brain. All these chiefs are in their turn controlled by one supreme will, the highest, conscious individual intelligence.

The Eyes—Sight of Supreme Value

Of the several local unions forming together the group of so-called special senses, that of sight is the one of supreme value. All the vocations of life require sight for their perfect performance, and our chief pleasures in life have the same source—form, color, size, motion, distance; literature, painting, sculpture, all these and more are brought into our consciousness by means of vision. We are born blind, and our sense of sight, to be strong and perfect, should be developed with care. The first rays of light that impinge upon that delicate and sensitive nervous mechanism, the retina, should be reflected, and not direct rays. A normal infant is born with perfect sight organs; to preserve them in their perfection, the child must never be permitted to face a direct light, either natural or artificial—unless perhaps momentarily, that he may gain the knowledge that will keep him from gazing fixedly at a light.

Also, to prevent acquired astigmatism or cross-eye, objects held before an infant's face for inspection should never be brought nearer than twelve inches—the normal focal distance for near vision. In addition, the time during which an infant or young child is permitted to gaze at a bright object should be short, for the intense light rapidly fatigues the optic nerve and causes it, in self-defense, to induce in itself a condition of semi-paralysis; this condition may become permanent, or habitual, and thus interfere with good vision in later life. The defective vision which many young school-children develop may have had its inception in infancy from easily preventable causes, such as the above.

The Most Suitable Light—The Most Grateful Page

To use the eyes continuously at close range for a long period of time without injury, a moderate diffused light, without pronounced color, is necessary. It should not be a white light, but some neutral tint without sharp contrasts. A dull white page with black type gives the general impression of gray; and this is the most grateful to the eye.

If, of necessity, the light is stronger from one part of the room than from another, this stronger light should fall over the left shoulder, because the implement of work—pen, pencil, brush, needle, as the case may be—is almost invariably held in the right hand, and the eye is directed to the left side of this hand, following after the work. Light over the right shoulder would cast the shadow of the hand into the range of vision, with consequent blurring and rapid fatigue.

Eye-Strain Induced by the Moving-Picture Exhibition

Civilization has made us immune to many things. The latest strain to which the human eye is called upon to adapt itself is the moving-picture show—especially when in color. Reading on moving trains and street cars may be made less injurious by occasionally closing the eyes

for a moment of recuperation, but the rapidly-moving cinematograph compels constant attention, permitting only the ordinary wink. Add colors to this heretofore gray dancing medley, and our already alert and well-seasoned retinas are called upon to perform a modern Herculean task, and to provide immunity to the intense fatigue proceeding from it. In the effort many eyes will go down; for, according to the latest accepted theory of color vision, a decomposition of certain chemical substances takes place in the retina for each given color. In our ordinary everyday life there is ample time given for recuperation and rehabilitation of this chemical substance as we look from one object to another, but not so in the colored moving-picture show. Therefore, beware of it; keep away from it;—or if you *will* go to it, protect your color vision by closing your eyes occasionally, even at the cost of losing some of the show!

Cross-Eye—Local Irritations and Their Simple Treatment

But there are other parts to the eye which are not directly concerned in vision; these also need our care and attention. The rolling movements of the eyeball are performed by means of delicate cords of muscle tissue. Care must be taken, especially in the case of infants and very young children, that one of these muscles does not become abnormally strong, thus causing the disfiguring cross-eye. Then, there is the pink mucous lining of the lids, which is kept moist by a fluid from the tear gland, and which must be protected from undue irritation by sharp winds or dust or bright light. And, again, the little lubricating glands at the roots of the lashes sometimes have a tendency to over-supply. This may be obviated by bathing with a simple alkaline non-irritating wash, followed by a bit of soothing emollient. By such simple precautions a vision naturally perfect may remain so, and all abnormalities and distressing symptoms be prevented, and the external eye retain its beauty. It should always be borne in mind, however, that the general health exerts a great influence upon vision, as well as upon the condition of the outer parts of the eye.

The Physiology of the Nose

Really, in point of function, the nose should claim our first attention; because without breath there is no life, and with imperfect breathing there is no health. The air about us, while indispensable to life, is yet unfit to enter into the most intimate structure of the lungs, and there are many mechanisms, either directly in the nasal passages or contributory to them, whose sole purpose is to elaborate the vital fluid, and thus protect the citadel of life, the lung. The mouth is entirely devoid of any of these lung protectors.

At its very entrance in the vestibule of the nose we find a screen of interlacing hairs; this screen is kept moist and sticky by the fluid that has flowed over the eyeball and comes trickling down the nasal duct—giving us a fine example, by the way, of conservation of waste product in nature. The portion of air in each inward-drawn breath is sifted through this screen, and the particles of dust, or other fine materials floating in the air, are caught and held in its sticky meshes till removed. Next in order we find an apparatus for warming the air, if it is too cool, or cooling it, if the reverse; and at the same time moistening it, if too dry. This mechanism is placed so close to the inner wall of the nasal passage that but a negligible portion of air can pass without coming in contact with it, and being affected by it. In fact it cannot be said that there is a direct stream of air from the outer world into the lung; for, placed at regular intervals, are gracefully curving bones, forming rounded corners where the air must be detained and whirled rapidly about, after the manner of flowing water in a little side pool.

For further elaboration of at least a portion of the incoming breath, there are provided two great cavities—one below and the other above the eye;—and these cavities communicate by "the open door" with the nasal passages. In addition to all these, there is a tonsillar enlargement just where the nose ends and the pharynx begins, which bulges forward and makes narrow the air passage at this point. Wonderful are the ways of nature; for what is placed at this point for a good purpose may, and often does, become a source of evil. So narrow is the air passage just here that only a slight enlargement of this "third tonsil" closes the aperture, and renders breathing through the nose impossible. Adenoids are the bane of many a child's life, for not only do they interfere with normal breathing, but, by pressure, they may close slightly or entirely the orifice of the Eustachian tube, and thus cause deafness or other middle ear troubles.

How to Safeguard against What We Call a Cold

There is a great extent of territory contributory to the nasal passage. This territory is covered with mucous membrane filled with minute glands, from the mouths of which exude a lubricating fluid called mucus. Normally, there is

just enough of this to keep the parts moist, but in the condition known as "a cold," which we are said to have "caught," there may be a condition of dryness, or of excessive flow of mucus. Either of these conditions may be, and usually is, brought on by an error in diet, coupled in some cases with exposure, and in others with hot, stuffy indoor air. To avoid colds, be sure you use a balanced ration, and not too much of it. Avoid drafts, especially on the back, but expose the *whole body* fearlessly to fresh air, air that is in motion. A surplus of carbohydrates in the dietary is the guilty factor in catarrh and adenoids. Plenty of oxygen in the air we breathe will burn some of the surplus, and so redeem the situation. Therefore sleep with plenty of open air if you would avoid colds and adenoids.

Fresh Air as a Source of Immunity against Contagious Diseases—A Balanced Ration

It is a well-established fact at the present time that many of the so-called contagious diseases, especially those of childhood—as measles, scarlet fever, meningitis, etc.—find their way into the blood by means of the nostrils. Therefore, if a child is exposed to any contagion, take him out into the fresh air, and *keep him there* for at least an hour. It would be well, first, to cleanse the vestibule of the nose with an antiseptic fluid, by dipping a soft cloth into this fluid, and using it over the tip of the little finger. Cleanse thoroughly, and then apply a bit of emollient in which is a sufficient percentage of some good germicide. Apply this again at night, after the child has blown his nose. Do not allow the liquid to be snuffed. No child, I think, would develop a contagious disease if he were always fed a balanced ration—not too much nor yet too little—and *always* had pure air to breathe. Since the latter is an impossibility in cities, to prevent contagious diseases cleanse the lower nostril every night with a warm solution of common salt and baking soda—equal parts—and gargle the mouth tonsils with the same.

Childhood Diseases Affecting the Ear

This treatment will also promote health in the ear, by keeping the entrance to the Eustachian tube clear of mucus, and open for the free access of air. Abscess of the middle ear is a frequent disease of childhood, causing in some instances absolute deafness for all of life in the affected ear; and the pus-forming organisms find their way into the eardrum by means of the Eustachian tube. Still further, mastoiditis may be prevented by the same treatment; for the cells of the mastoid bone, far in, and back of, the ear, communicate with the middle ear, and are thus open to the outer air, and subject to infection from the outside world by way of the Eustachian tube. For obvious reasons, also, water should never be permitted to enter the external meatus, or ear-tube; neither should any attempt be made to cleanse this canal with anything smaller than the little finger tip unless to remove an elusive bit of loose wax—and this should only be removed *carefully* with a tiny pair of blunt forceps made for the purpose.

The Precarious Existence of the Teeth—Injury from Candy-Eating

And now what shall we say for the dental union? The number of skilled workmen forming this union is thirty-two; they all stand fast in a cavity which Dr. Holmes has facetiously designated as "our food-receiving feature three times daily patent." The beginning of life is toothless, its end may—or may not—be so. All our other organs may remain intact to the close of a long life, but not so the teeth. Especially precarious is the life of a tooth among the candy-loving American children. A certain amount of sugar daily is a requirement for heat and energy, but more is an injury. Too much of sweets given to children can but be productive of evil; for an undue amount cloys the appetite for other foods that are required for the body but that must of necessity be unsweetened. Also the teeth are injured in two ways, directly and indirectly. The first may be prevented easily—or rather, perhaps, uneasily—for every child dislikes to wash his mouth and see that no least particle of candy (pure sugar all dissolves) be left anywhere about his teeth. The tendency of sugar to acid fermentation under certain conditions is what renders its presence, in the mouth, even in minute quantities, a source of danger. The mouth presents all the requirements of an ideal incubator—warmth, darkness, and moisture. The enamel of the teeth contains a certain proportion of lime to which acids are quickly destructive.

Care of the Teeth—Danger of an Excess of Carbohydrates

Locally, the menace of an excess of sweets may be overcome by thoroughly cleansing the teeth every time anything has been eaten, care being taken to see that no particle of any food is left packed in the hollow crown of a molar, or tucked snugly away in corners between the teeth at the level of the gum. Especially should this be done at night, before the ten or more hours of sleep begin. In one family of five children, even the sixteen-months baby has been taught to

use her cunning little toothbrush, and to spray the water through her teeth every night—and to find enjoyment in it. All these children have a certain allowance of candy at meals. They are well-grown for their years, and have no stomach troubles, or severe colds; and their teeth are sound.

It is through the blood that the teeth may indirectly, but none the less surely, be injured by an excess of carbohydrates. The salivary glands obtain their product directly from the blood. Carbohydrates assist in forming acids in the blood that are taken up by these glands and deposited in the mouth among the teeth. In addition, there are certain minute glands on the inner surface of the upper lip, and the secretion from them may be of an acid nature, from the same cause. A bit of blue litmus paper will tell the story. If it becomes even slightly pink, when applied for one minute between the upper lip and the gum, that fact should be regarded as a danger signal; the supply of carbohydrates should be cut down, and the quantity of fresh vegetables and fruits increased. It also means that an alkaline mouth wash should be frequently used.

Unsuitable and Suitable Exercise for the Teeth

Sometimes it happens that children think teeth are easily available nut-crackers, only to find that nuts are tooth-crackers. The lesson is obvious. But among all the infernal machines that might by any possibility be invented for the destruction of symmetrical development of teeth the husher, or "comforter" so-called, given to little babies, stands preëminent. Avoid it, mother, as you would a snare.

And, finally, to have teeth that are strong, beautiful, and permanent, one must exercise them. Atrophy and decay invariably follow idleness or luxurious ease such as is found by the mastication of soft foods, the crumb of bread instead of the crust, soft toast rather than dry, etc. From the day that the infant develops its first molars, he should be educated to chew on hard-baked, unleavened oat-cakes that may sometimes, but not always, be sweetened a little. Rye meal or whole-wheat meal may sometimes be substituted, but not the finely-ground flour. Take care of the organs of your special senses, and they will take care of you. Teach your children this.

THE CARE AND PRESERVATION OF THE TEETH OF SCHOOL-CHILDREN

BY

EDWARD F. BROWN

THE most common and one of the most serious of the physical defects developed by modern man is decayed teeth. The menace of a filthy or diseased mouth-cavity is, not merely that it renders the teeth incapable of performing their appointed function properly, but that a general devitalizing effect on the whole system is produced which may culminate in serious physical and mental disturbances. The havoc wrought by decaying teeth in the mouths of school-children is a problem that concerns alike the educator and the sanitarian. Irreparable injury to the child may result from the lack of care of the teeth.

A Popular Fallacy regarding the First Teeth

The mouth is the vestibule to the alimentary canal. The teeth are the mills which cut, crush, and grind the food that is taken to nourish the body. The first teeth, known as the deciduous (or milk) teeth, require attention as do the permanent teeth. There is an unfortunate popular conception that inasmuch as the primary dentition is temporary, little care is necessary. Aching first teeth have on this principle been prematurely and imperfectly extracted, resulting often in the irregular eruption of second molars. This abnormal development impairs the vitality and efficiency of the permanent teeth, while their uneven protrusion causes curious malformations of the jaw and face. Uneven formation of the teeth offers excellent opportunities for the lodgment of food in inaccessible recesses of the mouth, exposing the teeth to rapid decay.

Causes of Dental Decay and Three Essentials to Prevent It

When food is hard the teeth are automatically cleaned by contact with it. The consumption of fibrous food, thoroughly chewed, should there-

fore be encouraged. We have abandoned many of the hard foods for mushy materials that require no action by the teeth and give them no exercise. These soft, non-fibrous foods leave the surfaces of the teeth thick with food débris, which, when fermentation sets in, causes decay unless effectively washed away.

The three essentials to prevent dental decay are a properly constructed toothbrush, dental floss, and an antiseptic mouth-wash. The toothbrush will cleanse bacterial masses from the surface of the tooth; the dental floss serves to dislodge food deposits from between the teeth where a toothbrush is of no avail; while the mouth-wash is a useful precaution against infection. Of these three, the toothbrush is the best known and the worst managed, while the floss silk is the least known in spite of its essential importance as a defense against tooth decay. Cleansing of the teeth requires not merely the removal of bacterial deposits from the outer surface of the teeth. The toothbrush should cover the three sides of the teeth which are sufficiently clear for toothbrush action, while the dental floss reaches the two sides between the teeth.

The Menace of Dental Decay

Indescribable pain, resulting frequently in mental disturbances and facial neuralgia, is caused by the exposure of the pulps through cavities. This condition invites dento-alveolar abscesses which may result in blood-poisoning, serious anemia, and even death. Indigestion can often be traced to the bolting of food, made necessary by a diseased condition of teeth and the consequent inability to masticate properly. A poorly nourished body that is the result of defective teeth becomes a magnet for such diseases as overcome weakened systems. Chief among these is tuberculosis. Stomatitis, or inflammation of the mucous membrane of the mouth, is in many forms frequently the result of unhygienic mouths. Pharyngitis, an inflammation of the rear of the throat, may be due to infection from the mouth, and is often associated with decayed teeth.

School-Children's Dental Clinics, Urban and Rural

The city of Rochester, New York, started the first dental clinic in America. In large communities dental clinics in centrally-located school-buildings should be established for poor children.

An interesting experiment was made in Dorsetshire, England. A whole-time dentist was engaged who traveled from one school-area to another, carrying the necessary dental apparatus with him. Thus it was possible to extend over a large rural district the beneficent influence of the dental clinic which otherwise would probably have been unprovided for. The dentist visited 37 schools and examined 9200 children, 8860 of whom were treated during the first six months. The value of the itinerant dentist in rural districts is not merely in the treatment of school-children, but also in his potentialities as a consultant and lecturer to the whole community.

The Relation between Education and Health

In order to function properly, educational processes must be focused on responsive pupils. The child who suffers from aching teeth cannot concentrate on lessons. The absences due to sub-normal condition of health affect school progress. Retardation makes it necessary to appropriate money for the special benefit of the backward. The inability to move on with the class in normal progress frequently discourages the child from going on to advanced studies and schools. It often destroys self-confidence, causing the child, discouraged and disheartened, to leave school and go out unprepared to meet the stern realities of life. Even though school-work is attacked with the greatest seriousness, it cannot yield the results that it would if the child were not suffering from diseased teeth or other physical defects.

Health and Economic Competency

Industrial inefficiency frequently results from physical incompetency. The ills traceable to diseased teeth represent many days away from work. These lapses in production are sometimes the determining factor in a man's becoming dependent. If all men had steady work at reasonable wages, free from the burdening cost of sickness, the producing power of the individual would be sufficiently high to maintain him. Many of the preventable diseases lie at the root of poverty. Although health is not urged as a panacea, undoubtedly the care and preservation of the teeth will increase the working efficiency of the individual, reduce preventable illness, and in many ways go towards making the individual economically independent.

The Philosophy of Prevention

It is necessary in each community to give the widest possible publicity to the campaign for better health through sound teeth. Mothers must be taught how to preserve the teeth of infants, children trained in the art of the toothbrush, floss, and antiseptic wash; teachers prepared to impart lessons of hygiene. Toothbrush drills

in schools are effective. Dental inspection; an effective system of follow-up to induce parents to have the teeth of their children cared for by the family dentist; the establishment of dental clinics for the free treatment of children whose parents are too poor to pay for private treatment —these are the foundation stones of health and efficient life, so far as oral hygiene is concerned.

EYE-STRAIN

BY

DR. WILLIAM T. POWERS

Of all the physical effects which militate against the comfort, welfare, and mental advancement of school-children, none is of greater importance than ocular deficiency.

Defects of vision that may have given no evidence of their presence upon the entrance of the child into school often become a serious menace to his well-being and his mental, and even moral, advancement, since the new conditions, which demand an unaccustomed use of the eyes for accurate near and distant vision may cause some form of eye-strain.

The manifestations of eye-strain are numerous. They range from simple conjunctivitis (affection of the mucous membrane lining the eyelids) to squint, and from headache to severe nervous conditions and mental disturbance. At first eye-strain may simply cause fatigue after a short time at reading, sewing, writing, or other use of the eyes at short range. It may cause drowsiness, or simply disinclination for further work. It may cause a watering of the eyes, and a redness of the eyeball or the edges of the eyelids. It may give rise to headache of almost any character. Many cases of vertigo, so-called sick-headache, or "bilious attacks," are caused by eye-strain.

Whenever children show any signs of nervousness or disinclination to read or study, the eyes should be examined as a possible source of the trouble; and it is needless to point out that any obvious abnormality, such as red, inflamed, or watery eyes, or strabismus, better known as squint or cross-eye, should be investigated and remedied at once.

Why Tests of Vision Should Be Universal—Relief of the Eyes by Glasses

It is poor policy, however, to confine the examination of the eyes of school-children to those cases in which the trouble has gone so far as to produce striking signs of ocular or nervous disease. Many ocular defects are not obvious; in fact, some of the worst sufferers from eye-strain have no readily-apparent eye trouble, and many of them have very accurate near and distant vision.

The eye is exceedingly complex in structure and most intricate and delicate in organization. To secure clear, accurate vision the eye must adapt itself with lightning-like rapidity to the size of the object perceived, its distance, the illumination, and the accuracy with which the object is observed. This power of the eye to adapt itself to all these varying conditions is called the power of accommodation. The perfectly-adjusted, normal eye is not only able to respond by accommodation to the rapidly-changing conditions and varied uses to which it is put during waking hours, but it is even able to overcome considerable errors of refraction and force such an adjustment of a defective eye as to bring about clear, and, in many instances, perfectly normal vision.

The healthy, robust individual can frequently accomplish a wide range of such accommodative effort, even successfully compensating for high degrees of refractive error with little or no inconvenience. Yet this forcing of the refractive media of the eyeball to overcome its defects always taxes the delicate ciliary muscle, and in those not sufficiently robust to endure it, eye-strain is the result.

Though we all possess this faculty of accommodation in greater or less degree, its ability to respond to the demands which we make upon it is dependent upon the conditions of our general health and strength; and it is exceedingly unwise to presume upon and abuse it when properly-constructed glasses would correct the defects of vision and relieve the ciliary muscle of any abnormal and excessive strain. It is for this reason that all children, even in the absence of any eye-symptoms whatever, should, upon beginning school life, have their eyes examined by an oculist; by this simple preventive measure many a miserable hour in the future may be forestalled.

Tests of Vision Should Be Made Only by Competent Oculists

The examination of the eyes and the prescribing of glasses must be very carefully and skilfully done, and should not be entrusted to any but those fully equipped to do the work. To determine whether glasses are to be prescribed or not it is necessary for the opthalmologist to know if parallel rays of light entering the pupil will be focused exactly on the retina without any accommodative effort. No accurate measurement of the refractive power of the eyes of any person who still possesses the power of accommodation can be made while that accommodation is allowed to remain active. It is, therefore, necessary to put the eye in a state of repose to measure its refraction, or in other words, to relax the accommodation; but, the voluntary relaxation of the accommodation being impossible for all but a comparatively few individuals, it is necessary to resort to some artificial means to bring this about. This is done by the use of a midriatic, such as atropin, homatropin, or similar agents.

These are the "drops" so much condemned by opticians, so-called "optometrists," jewelers, and others outside of the medical profession, who, without any knowledge of diseases of the eye, attempt to correct errors of refraction with lenses.

Besides placing the eye at rest by relaxing the accommodation and making it possible to determine accurately the refractive index without interference from the accommodative faculty, the use of a midriatic affords another important advantage, namely, that of facilitating the examination of the fundus of the eye. The widely-dilated pupil gives a much clearer and wider view of the retina, the optic nerve, and the blood vessels of the interior of the eye, thus aiding greatly in the diagnosis of abnormality or disease of these structures.

The use of such drops or midriatics is restricted to the medical profession, and rightly so, since only those familiar with diseases of the eye and capable of determining when it is advisable and when it is safe to use these drops, should have the authority to use them.

It must be borne in mind that the relief of eye-strain is not alone a question of determining errors of refraction and correcting them with lenses, nor is it a question merely of diagnosing diseases of the eye; but it requires a thorough knowledge of the physiology and pathology of the whole human body and their particular application to conditions of the eyes. The whole question is a medical one, and none but fully-qualified physicians should be entrusted with any phase of it.

The Hygiene of the Eye

Parents and teachers should see that children in reading, writing or other work, requiring close and accurate vision, assume a proper position, sitting in an erect posture, and having the work about fourteen inches from the eyes; and also that there is sufficient light for the task. The light should shine upon the object to be seen, but should not be directly reflected from it into the eyes, and the source of light should be above and behind the person. Daylight is, of course, the best light. If artificial light must be used it should be even, clear, steady, and sufficiently bright.

In conclusion, then, I would say that all children without exception should have their eyes examined by an oculist at the beginning of school life; that care should be taken to correct all abnormalities; that the children should be required always to assume a proper posture for near work; that the light at all times should be sufficient and that it should come from the correct direction.

COMMON TROUBLES OF THE EYE, EAR, AND NOSE

BY

DR. HARRY ROBERTS

One of the commonest of minor accidents is the lodging of foreign bodies in the eye. The pain caused by even a smooth and comparatively harmless particle resting on the sensitive surface of the eyeball is often acute, and should the object have sharp or cutting edges it may become embedded in the eyeball, causing permanent injury. The best way of having the eye examined is turning the eye upwards while the lower lid is pulled down with the finger. This will be found to expose all the lower half of the eyeball. The upper half is rather more difficult to get at, but it may be almost completely exposed by turning the lid back over a small piece

of wood or metal, such as a wooden match, while the eye is directed as far downwards as possible.

The corner of a wet handkerchief, a bit of absorbent cotton, or a wet camel's-hair brush, will be found effective in removing the object should it be merely lying on the surface. Should the particle have become embedded the matter is a little more serious, and it is best to leave its treatment to a medical man. The removal will entail the use of a small lens, with which to locate the injury, and possibly the application of a local anæsthetic, as the object will probably need to be actually dug out of the substance of the eyeball. When the foreign body has been removed, the eye should be closed, covered with a damp pad of soft lint, and rested for a day or two. Such injuries are most frequently caused by flying cinders during a railway journey or by particles of dust blown from dirty streets.

Often small ulcers form on the injured spot, which take a day or two to heal. Unslaked lime is extremely dangerous to the eyes, as the liquid covering the eyeball combines with it, and may do enormous damage, even completely destroying the sight, in a very short while. Even though the sight may not be lost, it may be permanently impaired through the thickening of the cornea of the eye. Certain forms of inflammation of the lids convey the impression of grit in the eye, this being due to the inflamed condition of the inner surface of the lids. Needless to say, the worst thing to do in any case of foreign bodies in the eye is to rub the eye (the first natural impulse), as this only serves either to scratch the cornea or to embed the object still more firmly in it. The eye should be half closed and allowed to "water" as it will, the flow of tears often carrying the object into the corner of the eye, and so out on to the cheek.

Foreign Bodies in the Ear

When a child gets a foreign body of any kind into the ear, the wisest thing is to take him at once to the doctor, as much harm may be done by those not well acquainted with the anatomy of the ear. When a doctor is not available, the best thing to do is to syringe the ear with warm water, unless the foreign substance is a pea or bean, which would at once commence to swell as the result of moisture, and would consequently cause great pain and become more difficult to remove. Should an insect get into the ear, the head should be held over to the opposite side, and the ear filled with warm oil, after which the ear may be syringed with a little warm water.

Parents sometimes drop hot oil into the ears of children suffering from earache. This oil has a tendency to become rancid and to plug up the ear. A much better substitute is afforded by a mixture of equal parts of hot glycerine, methylated spirits, and water. This mixture will not turn rancid, and can be easily removed by syringing the ear with warm water. External warmth is best applied by wringing out a towel or piece of flannel in boiling water and closely applying it over the ear, covering it with a piece of oiled silk or rubber tissue. It is important to have a child's ears properly examined as soon as there is any suspicion of difficulty of hearing, and if possible so to avoid permanent trouble.

The Nose

Children are likely to push small objects, such as peas, up the nostril, with results that may be somewhat alarming until the cause is discovered. One early result is a discharge from one nostril only, and if not remedied this discharge soon becomes very offensive. It is well to take all these cases to the doctor, as much harm may be done by unskilful attempts to remove the foreign body.

Bleeding from the nose is extremely common among children of about twelve years old. Providing the loss of blood be not considerable no treatment is needed and no alarm need be felt. If the bleeding does not quickly stop when the head is kept erect and cold air repeatedly sniffed up the nose, a little cotton-wool may be carefully inserted as a plug up the nostril.

Ophthalmia

Ophthalmia, or inflammation of the membrane which lines the inner surface of the eyelids and covers the eyeballs, is a very common disorder, especially among children. Its seriousness depends very much on the cause, the most grave form being ophthalmia of the newly-born infant. When it occurs in children it is usually the form known as purulent ophthalmia, and there is a considerable amount of matter which accumulates between the lids. It is most important to remove the matter as soon as it is formed. Every hour the lids should be forcibly opened, and the discharge wiped away with a bit of soft linen dipped in a solution of perchloride of mercury, of a strength of one in 2,000. The eye should at the same time be bathed with a solution of nitrate of silver of a strength of two grains to the ounce. After bathing with the lotion, a little yellow oxide of mercury ointment should be placed between the lids. In the case of older children or grown-up people, the eye may be syringed every hour or two with the nitrate of silver

solution, the ointment being inserted as before. It is important to keep the eyes shaded from the light.

How to Treat Inflamed Eyelids

Inflammation of the eyelids is a very common affection. It is perhaps most frequently met with among poor children, especially those who live in the more crowded parts of cities; but it also occurs at every age and among all classes. Its principal symptoms are redness of the edges of the lids, the formation of crusts at the roots of the eyelashes, and often inflammation or even ulceration of the surface of the eye itself. If neglected, the margins of the eyelids frequently suppurate, and in bad cases there may be entire and permanent loss of the eyelashes. A large number of cases of inflammation of the eyelids can be traced to defective eyesight; obviously, therefore, it is always wise to have the sight tested, and, if necessary, to wear suitable glasses. The lids should be bathed several times a day with an equal mixture of hot water and the following lotion: Bicarbonate of soda, 1 dr.; borax, 1 dr.; common salt, 1 dr.; water to 8 oz. Every night and morning some yellow oxide of mercury ointment or dilute nitrate of mercury ointment should be placed upon the edges of the lids. Some cases which do not yield to this treatment may be treated with good results with a fifteen per cent. solution of protargol. The lids are to be kept closed during its application, and the solution is to be applied by being vigorously rubbed on with a large, soft camel's-hair brush, used as a shaving brush is used in shaving. The treatment should be applied for several minutes once daily for a week.

Making an Eye-Shield for Cases of Ophthalmia

In all cases of inflammation of the eye, or ophthalmia, the discharge from the affected eye is extremely likely, owing to its highly infectious nature, to affect the sound eye also. To prevent this, a shield should be employed. The method of its construction is as follows: Take two pieces of india-rubber sticking-plaster, one measuring four and a half and the other four and three-quarter inches square. In each of these a circular hole is cut, and the larger square of plaster is affixed to the bulging side of a watch-glass. This glass is then reversed, and the smaller square fastened to the hollow side. The watch-glass is thus placed between the two pieces of plaster, which are stuck together by the adhesive surfaces. The shield is applied to the sound eye by carefully pressing the adhesive margin of the large square of plaster, which is left exposed, to the nose, forehead, and cheek, leaving the lower part of the outer side open to admit of the free entrance of air. The attachment should be strengthened by means of extra strips of plaster, especially on the nose side, as this, besides being the most difficult of adjustment, is the most liable to infection from the other eye.

TRAINING THE SENSE OF TOUCH

BY

JOSEPHINE TOZIER

ALTHOUGH we have long realized that much of our knowledge of the world about us comes through the sense of touch, educators have done little toward special training of that sense except in connection with the teaching of the blind. Normal children have been left to the following of their own impulses in this direction, with a general recognition of the fact that they were "touching things, and so learning about them." After a moment's thought on the subject, the value of touch-training is apparent, and it will be of interest and importance to the mother to know something of how such training is given.

The pioneer in this special training was an American physician, Edward C. Seguin, whose study of defective children led him to a special system of touch-training with a view to awakening the senses of such children. Madame Montessori carried this system further, adapted it to normal children, and gives us an excellent method for touch-training. "The first step in this method," says Josephine Tozier, in an article in "McClure's Magazine," "is to teach children to 'see with their fingers,' and thus to cultivate a delicately retentive memory." We quote further from Miss Tozier's article:

"Not only is this a desirable end in itself, but it has the further advantage of minimizing the strain placed by ordinary methods of education upon the eyes, and consequently upon the brain.

By the cultivation of the sense of touch, reflex actions are set up in inferior nerve-centers with which the brain has little or no concern. One of Maria Montessori's chief objections to some of the most popular kindergarten employments is that they involve a harmful effort of the organs most closely associated with the brain—the eyes.

"No sooner has a child entered the school [Madame Montessori's "Casa dei Bambini," or House of Childhood, at Rome] than the education of his (or her) sense of touch begins. He is taught to wash his hands carefully in cold water, with soap, and then to plunge them into warm, clear water. In addition to this, the first and the second fingers are plunged first into cold and then into warm water, and he is led to notice and to know the difference. The discrimination between *rough* and *smooth* comes next. This being an actual lesson, it shall be described fully, as it is the proper picture of the only form used in teaching in the Casa dei Bambini.

Learning the Difference between "Rough" and "Smooth"

"Two cards are put down in front of the child—little Lucia, for example, who has seated herself comfortably in a nice, broad little chair, in front of her chosen table. One of these cards has a surface of satin paper; the other is of the coarsest black sand board. The teacher, taking the child's hand in hers, passes the tips of its first and second fingers over the smooth card. She must be careful to draw them from left to right, for the sake of the muscular memory, which, if not carefully considered, might cause trouble some future day. The tiny fingers like the contact. They continue to move along after the teacher has released them, and the child looks up, smiling. 'Smooth,' says the teacher, slowly, distinctly. If she adds one more word, even a term of endearment, she will transgress her duty, which forbids her to run the risk of confusing her pupil. To confuse is to tax the brain, and that is a cardinal sin.

"If the little one continues to feel the card, the teacher repeats the word. But if the child's curiosity awakes, and it takes its fingers away and looks longingly toward the other card, then the two little fingers are passed gently over the sand board. 'Rough,' says the teacher. The child doesn't like that feeling; she very likely draws her fingers away; but will soon tentatively put them back again. 'Rough,' the teacher will again repeat.

"Then the cards are taken and put down, side by side, for the child to look at them. 'Give me the smooth?' asks the teacher. The child remembers at once the nice card, and hands it to her.

" 'Give me the rough.' That, too, will be handed her, with the air of importance which children can so deliciously and successfully assume.

"The teacher smiles her thanks, and again the cards are placed on the table. 'What is that?' she says, pointing to the satin card. 'Smooth,' replies the proud pupil. 'And this?' The answer comes, 'Rough.'

Children Correct Their Own Mistakes

"It must not be supposed that the answer is invariably correct, especially when the question concerns more difficult objects, as they will later on in the course of education. But the rule for the teacher is that, should mistakes be made, and the two objects (for there are never more than two at a time) be confused one with the other, she must not correct the child, but leave it to consider quietly, while she goes off to some other duty, not to return until another day, unless the child demands her.

"This abstinence from correction is explained as follows:

" 'Why correct the child? If she does not succeed in associating the name with the object, the only way of making her succeed is to repeat at once the action of the sensorial stimulus, and the word to be associated with it; that is, to repeat the lesson. But the fact of the child having made the mistake implies that at that moment she is not disposed to the psychic association which you desire to provoke in her; hence it is best to choose another moment.' "

6. Habit-Forming

THE PHASES IN HABIT-GETTING

BY

WILLIAM BYRON FORBUSH

Essentials to Habit-Forming

SIMPLY to perform a given act many times regularly does not create habit. Dr. E. O. Sisson cites by way of contrast a boy who goes to school and also goes to a Y. M. C. A. gymnasium. The boy goes to school every day in the week but two, but he does not find himself in front of the school-house door on Saturdays, although it has been his "habit" to go all the week. Yet he never forgets to attend the gymnasium, though he be there not oftener than once a fortnight. In the former case the habit was enforced by outer authority, in the latter by inner impulse. The one he accepted, the other he adopted. So, as Sisson says, a real habit is not the tendency to repeat a certain act, but "a fixed tendency to respond in a certain way to a given stimulus." Habit-making, then, has two factors, the stimulus and the response. The most successful habit-making will evidently consist of a stimulus that is in harmony with the child's instincts and the consequent natural spontaneous tendency to answer and gladly comply.

So many are the young child's instincts that we have considerable to choose from when we start habit-forming. Suggestibility will carry a child a good way in several directions; the instinct of activity supported by his imagination helps him to many tasks in the spirit of play. Love woos him to conformity, and fear has its place as a reminder and a control. No doubt we must try to form certain habits long before the instinct that favors them appears. Cleanliness has to be imposed by authority until the instinct of pride develops to demand it. Neatness has to be inculcated long before the sex instinct for adornments insists upon an exquisiteness that seems abnormal. We have to do many things to enable thirteenth-century children to live in a twentieth-century society without shocking that society.

Preparations for a New Habit

There are several stages in training a child in a habit.

First, we should start with a strong initiative. If we can make an effective appeal to begin with, whether we do it by a story, a bit of humor, an earnest suggestion, or the force of love or pride, we are more likely to enlist the feelings and the will upon its side. Dr. Edgar J. Swift has proven that the "plateau theory" of learning is true in regard to every habit; that is, in every new effort, physical, mental, or moral, there is a rapid gain at the very beginning, followed by a level or plateau, where for a time there is no apparent progress. Now, if we can generate enough motive-power at the start, it may carry the children clear across that first discouraging plateau. After the plateau is passed it is discovered that there has been developed a fresh power to ascend again.

The *second* thing is, to suffer no exceptions. Some may occur, but they should be as few as possible. Rip Van Winkle's "just this once," his swearing off drink, was his undoing. Here we have to apply sometimes that mixture of love, reason, and determination which makes up a truly artistic parenthood.

Third, if possible let us not force habit-allegiance. This seems to contradict the last, for if we are not to suffer an exception, we sometimes have to use force. This is true only with young children. But if we can keep up fidelity by positive rather than coercive methods, if we can still have the coöperation of the child's love and will, we are evidently more nearly in the way of building up a habit that will last than if we excite stubbornness and rebellion.

A *fourth* rule, one of mercy, is to keep the child from temptation. We appreciate the wisdom of this precaution in helping an adult drunkard to reform. The rule is equally needful in the case of the young, whose inclinations are fully as treacherous and whose wills are less strong.

Finally, we may well aim to help the child to follow Prof. William James's rule to "give the will a little gratuitous exercise every day." If we keep a child forever battling a habit, there is danger not only that he will become hidebound

and priggish over his victory, but that his tired and mischievous spirit will relapse, just out of revenge. Here comes Thomas Chalmers's fine old idea about "the expulsive power of a new affection." If one had been laboring for a while to habituate a child to get down to breakfast promptly every morning, it might be a pleasing variation if he were tried for a while on combing his hair successfully, or, if this seemed to add insult to injury, to allow him to take his father's place at table and serve occasionally. The thing is to have always some new, challenging, and interesting stimulus to the will.

For, as Sisson tells us, a habit, well absorbed, is "regent for the future independent will." It rules until the will is ready to reign.

Bad Habits—Overcoming Evil with Good —Advantages of Correct Habit Formation

A word about bad habits. The parent is to regard them as contrary to nature and is to believe that if he plants enough good seed it will weed them out. Young children who come home with shocking expressions on their lips are not to be greeted with horror. The things they say may be stigmatized at once as not nice and thereafter generally ignored, while the child is put in the way of hearing only refined speech for a while, including such expletives as polite society uses. The result will be that the unfortunate phrases will be forgotten. In general, we are to overcome evil with good, endeavoring always to discover the good motive, the wholesome activity, the diversion that may displace what is undesirable.

Deterrent methods come as a last resort, but even these can usually be symbolic. The soapy-water cure for profanity is such.

A child should come up to the days of youth with all the common courtesies a matter of course, religious observances so much a custom that they stand ready to become natural expressions for his awakening religious nature, and kindly and generous attitudes of thought so long established that, when he gets ready to take himself in hand, he will have so many Christian presumptions in his experience that it will be difficult to disown them.

DELIBERATION, REFLECTION, DETERMINATION, PERSEVERANCE, AND SELF-CONTROL AS ENDS OF PHYSICAL TRAINING

BY

DR. C. F. WEEGE

Self-reverence, self-knowledge, self-control,—
These three alone lead life to sovereign power.
—Tennyson: Œnone.

INVESTIGATIONS in psychology and pedagogy have proved beyond doubt that all that man is mentally, he has become through physical activities. The motor expressions that the race has experienced for centuries and centuries have left indelible impressions on the field of subconsciousness. Our instincts are the results of phylogenetic physical experiences, our habits the outcome of ontogenetic motor expressions. The habituation and organization of our neuromuscular mechanism are not merely begun, but continued, at the first movement of the child. Prof. William James even doubts the freedom of will, but claims that our previous motor expressions determine the choice in any situation. The muscular mechanism affords the means of entrance of any new experience, any addition to our knowledge. And according to his customary action, man is rated; he will be called either courageous or timid, firm or fickle, discreet or reckless, persevering or inconsistent.

Physical Training Has a Right to Greater Recognition as a Factor in Mental Education

Now, I do not say that physical education is the panacea in eugenics, that it is the only means of racial development, but I must be shown a better one. Without being called an extremist, I believe that I am justified in demanding for physical education the place in modern education that it should have had when the first attempts in building up a scientific educational system were made, and that place is second to none. We have arrived at the point of recognition that physical education may not be only a subsidiary in mental training, but that it really is the most scientific method. We are past the stage of meekly suggesting that we might have something good to

offer, that physical education might add something toward building up the race. No longer will scientists, schoolmasters, or a public afraid of its pocketbook, cry "fad."

It is not so very long ago that education was looked upon merely as a means of acquiring knowledge. Then we advanced to the consideration that the development of the working powers of mind, judgment, reasoning, apperception, were more valuable than the mere storehouse function. Either of the above phases was at different times overemphasized, and to-day we realize that the development of mental faculties, plus the retention of some of the material offered, are essentials of education, and the object of this paper is to show that physical education, the organization of the neuromuscular mechanism, is an important factor in accomplishing the above. Deliberation, reflection and determination, perseverance, and self-control are tools of mentality, and necessary in making the best use of knowledge; the curriculum of physical education must be evaluated accordingly, to keep these tools in good condition.

Physical Training Should Seek Not Only to Produce Good Health but to Form Good Habits

It is plain that physical education, to be as important a factor as above stated, must take in consideration the man as a whole, as a unit. We cannot consider him merely a physical, an intellectual, or a moral being. Nor can we say that we are trying to make him only healthy, only strong, only mentally alert, or only moral. Physical education is more than a mere therapeutical measure. Knowledge alone, unless it is fortified by correct habits, will not insure a high moral tone, and will not fit the individual perfectly into his environment; neither will well-developed muscles, a sound heart, a perfect gait, and an ideal carriage, if they are merely the aim in physical education, be sufficient to serve as a means of mental development. Posture alone, no matter how high a head is carried, will not elevate the standard of citizenship. Very often that imposing appearance is a "big bluff" to cover up shortcomings, and many of our notorious criminals have demonstrated that they were physically quite superior to the officers of the law. I do not wish to be misunderstood on this point. I am fully cognizant of the extreme importance of bodily development, pure and simple. I know that good posture is a great advancement towards attainment of symmetrical development, physical, mental, and moral; but I wish to emphasize that physical education has a greater purpose than this. The hygienic or health-producing effect is only part of its aim; physical training must educate and form good habits. Deliberation, perseverance, and kindred powers must be so well developed that they will not only be demonstrated when artificially stimulated, but habitually used. Physical training must furnish situations in the gymnasium that put the tools of mind to a trial, and the pupil, by mastering these situations, sharpens his mind and becomes more deliberate, more persevering, and gains more self-control.

An Exercise on the Parallel-Bars as an Example of This Psychological Feature

How can we supply situations in our gymnasium that will answer these purposes? Here is a class ready to work on the parallel-bars. The preliminary exercises have been executed. The "jump-off" is polished up and due attention is paid to good form. Also, definite movements as purely corrective work have been done, for a lesson without special emphasis on posture is not considered complete; but after all, one can tell by the expression in the boy's eyes that he is looking for more, that he thinks there is a chance for something else. He is just aching to try his mettle at a few "stunts" in which he can show what he is made of. And here is an opportunity for the teacher's ingenuity to give the boy something that he can make use of in any station of life. There is no need of neck-breaking stunts. Let him swing high enough to get his feet over the bars to "cut the scissors." A boy trying to learn an exercise like this is a psychological study. He weighs his strength and compares his chances to gain the result, and determination and courage are gaining with the mastery of each new movement. Every little addition to his stock of conquered obstacles gives him confidence and whets his appetite for more. If in his eagerness he neglects the precautions of proper balance or other necessities, a bump will quickly remind him that he has neglected to make use of all the tools necessary for rapid progress. He quickly learns that a little deliberation is a great help in mastering his body.

The mere addition to his muscular power may have been acquired on the floor or even a soft mattress, where there was no danger of carrying away a blue mark as the result of lack of deliberation and reflection; but he will then lack just these qualities when trying to jump off a street car on to a slippery pavement. All apparatus can be made use of in a similar manner. Some apparatus demands more emphasis on one, some on another, of these qualities. As long as gymnastics have been practised, this important

psychological feature has been understood and been made one of its aims. Friedrich Ludwig Jahn [founder of modern German gymnastics] was not satisfied with merely developing able-bodied people. We have expressions, names of exercises that he used, which show that he had a deeper purpose in his work.

The Ideal of Perfect Control, through Proper Emphasis on Deliberation and Reflection

A class on the vaulting-buck and vaulting-horse very strikingly demonstrates the powerful influence that exercises of this kind have on determination and courage, deliberation and reflection. If material is carefully planned, and the exercises minutely adapted to the ability of the individual, results will be most gratifying. John Brown's phylogenetic and ontogenetic experiences are that danger lurks in that innocent-looking contrivance, the buck or horse; James Smith, however, knows that there is a barrel of fun stored up in that apparatus. John Brown is all taken up with deliberation and reflection, you must coax him along and lead him on very carefully, step by step, by exercises that will instill in him confidence in his ability, and slowly arouse his determination and courage. And, after he has once experienced the satisfaction of executing a vault that before seemed to him a dangerous undertaking, it takes but little to arouse his perseverance to try and try again, till he is promoted to James Smith's class. James Smith, on the other hand, is likely to have his deliberation suppressed by his ambition; in him, perseverance and courage are likely to turn into recklessness. Determination has such firm possession of him that self-control is often lacking. He must be led on to execute every exercise with perfect form. To him the fallacy of entirely disregarding danger is pointed out and the ideal of perfect control of body and mind under all circumstances is held up.

This phase of self-control, where through successive stimulation of courage and determination, deliberation and reflection are pushed into the background, is of highest importance to the future citizen. There are many situations in life in which the individual is driven to a point where he imagines that it is a case of "do or die," and where he is liable to injure himself or others. There are cases when the individual is pushed to the breaking-point of determination, when he is willing to risk his life for a triviality, or through teasing and daring, he is ready to risk his reputation as an orderly citizen by some deed that may involve him in serious trouble with the law. The deliberation, reflection, and self-control that are awakened and nursed by a lesson at buck-jumping will show splendid results in life. Some of our strong men, weight-lifters and stone-breakers, scorn the use of apparatus, but the agile, quick-thinking, physically less bulky but mentally more alert gymnasts always demonstrate their superiority.

Let me give another example of self-control developed in the gymnasium. It, with the others, has the advantage of being a picture of real life and not a mere writing-desk creation. Joe Mustard is normally a well-behaved young man, but during an interesting game is raised to such a pitch of excitement that he easily loses control of his temper. An accidental bump by an opponent, an unfavorable decision of an umpire, will make him disregard his environment entirely. He is ready to strike his best friend, or use the worst language towards officials, and one has constantly to be on guard to prevent him from inciting a miniature riot. Slowly this boy is made to learn to control himself. He makes his first advance when he voluntarily asks to be withdrawn from a game on seeing that the excitement will get the better of him. Later he manages to hold his own when the umpire calls a strike on what he thought should be a ball, and the fight for self-control is plainly reflected in his facial expressions. And finally he gets so far that after the inning he will smilingly inquire of the umpire if that third strike wasn't slightly misjudged. The umpire's personal feeling must not play a part in any game, but I have deliberately given close decisions against this boy to give him a chance to strengthen his self-control.

How Efficiency-Records Support These Contentions

It is impossible to enumerate in one paper all the phases that have influence in the training of these mental powers. All the work has more or less bearing on it, all the apparatus has its influence, some more pronounced on one quality, some on another. A report from the Armstrong School, in Chicago, not only substantiates my assertions but even gives the amount, the degree of development in numbers. At this school an efficiency record of all the pupils is kept. This record tabulates mechanical, physical, intellectual, environmental, and moral efficiencies, and each efficiency, such as attentiveness, receptivity, perseverance, is marked. Difficult as it seems to arrive at a correct standard for grading, any deficiency is readily recognized. Special efforts are made to improve by gymnastics the efficiencies

that have received a low mark. The results are astonishing even to teachers of physical education. Not only was the preëminent importance of gymnasium work demonstrated, but it was found that some intellectual efficiencies could be improved by physical training only.

Another report is that of Dr. Edward M. Hartwell, of Boston, on the good results of physical education in training the mentally abnormal. I do not believe that the training of the abnormal should be a part of the general educational system; in fact, I think it is unfair to the normal child, and cheating the race, when we spend about fifty times as much money and energy on the abnormal as on the normal; but the beneficial influence of physical education in Dr. Hartwell's report is interesting to note.

The disciplinary value of tactics is highly important in its effects on the development of deliberation and reflection and self-control. If the aim of discipline were merely keeping quiet, there are far more beneficial means of keeping a boy out of mischief. The field and track events and games are an ideal educational means. Here a victory very often hinges on the training which the above powers have received. Innumerable are the opportunities that afford excellent training. A boy facing the opponents' pitcher at a critical stage of a base-ball game must have all these qualities at his command; or when awaiting the report of the starter's pistol he often shows his superiority by demonstrating that he has these qualities at his command; or in a jump, gives proof of his being master of his inner self.

Good Results Are Not Always Immediately Apparent but May Be Revealed by Emergencies—Examples

One reason why educators have been, and are, so slow in realizing the importance of physical education as a means of training mental qualities, is that the good results are not immediately observed. In other branches of education results are more easily recognized. When the child comes home and tells father that two and two are four, father thinks there are results, but when the boy comes home from his gymnasium lessons, tired and hungry, then father must know something about gymnasium work to realize its benefits. And when Jimmie tries to show his little sister some of the "stunts" he learned in his gymnasium, then mother has to realize that the noise and inability to sit still are the craving of the child's instincts for demonstration. Innumerable are the instances in which the development of self-control can be traced to the gymnasium. The boy who forms the habit of acting in unison with his class during tactics, who learns that the success of the entire class depends on the individual's ability to subordinate himself to the entire class, will be better able to fit himself into his environment when he becomes a man. The courage and self-control gained during a game will stand him well in the many trials of life.

Numerous are the cases told of in which habitual perseverance and determination, reflection and self-control, in gymnasium, show excellent results in later life. It may not be amiss to give a few examples that prove this. During the Iroquois Theater fire in Chicago, where about 600 people lost their lives, a young member of a Chicago Turnverein through his reflection and self-control saved a number of people. He was jammed in with the crowd, with apparently no means of escape, and doomed to a terrible death. Overhead, seemingly too high to serve as an avenue of escape, was a window. The crowd saw no way of reaching it, but this young man's gymnasium training enabled him to get to the window, and he worked heroically helping others through until fire and smoke made further efforts impossible.

Another case happened in St. Louis some years ago. Five young women were caught in a burning building. Ladders were raised to a window that offered their only way of escape. Unfortunately the ladders did not quite reach up to the window and it required a good deal of courage and skill in climbing to reach them. Three of these young ladies unhesitatingly made the attempt and succeeded, the other two wavered till too late. Later inquiry revealed that the three girls saved had been attending a training-school and had not considered the climb a difficult one.

Another case was related by a gymnasium teacher of a Chicago high-school. One of his pupils acted the heroine by leading a number of young women over a shaky fire-escape to safety. The teacher remarked that this young lady had not been an especially brilliant performer on the apparatus, but her deliberation and self-control enabled her to calm the crowd and organize a safe escape. It may not always be a case of life and death, but fractured bones, torn and dirty dresses, or nerve-wrecking fear and excitement, are often the penalty of lack of deliberation and self-control. It is not necessary that one boast records and championships, the habitual use of his mental powers are his strong assets. In fact, the record-breakers and champions, as a rule, have the greatest difficulty to fit themselves into their environment.

The Life-Long Influence of Habits

The power acquired in gymnasium to reflect and deliberate will bear its best fruit in later life. Habits once formed will continue to direct the activities of the individual; they are suppressed with difficulty. I doubt if any new habits are formed after maturity, probably not even after a much earlier period. The ability to reflect and deliberate, and a certain amount of courage and perseverance, are preserved for the individual by protoplasmic inertia, and all we can do is to nurse and develop these powers. It is doubtful if we are able to create habits entirely new to the race; it rather seems that they are expressions of different degrees of inherited powers. But no matter what the psychological process may be, the one fact remains that the tendencies are there, and that it is our duty to see that they are deeply plowed into the brain substances by frequent repetitions. And the continued demand for their manifestation is what makes gymnasium work so important an element in education.

Considering that mind grows by motor-expressions, it certainly is of great value to the child to have abundant opportunities for these expressions. Not only that the child makes the most comprehensive use of these opportunities, because they are the natural sequences of its desires and cravings for action and sugar-coated doctrines to arouse interest are not needed; but it is healthy, normal growth. Furthermore, the results are two-fold. First, we form good habits and then we add to the muscular power, pure and simple, improve good carriage and posture, and innervate the organs of the body to greater activities. We may furnish in the classroom situations that demand expression of deliberation and perseverance, but the physical being cannot receive the same consideration as in the gymnasium.

THE DEVELOPMENT OF MORALITY THROUGH PHYSICAL EDUCATION

BY

MILLICENT HOSMER

LONG years ago, when physical training was fighting for recognition, any so-called strong man who could stand up on the stage and display his muscles, or make of himself a "human snake," was considered sufficiently well equipped to take charge of gymnastic classes. All he had to do, as far as the community cared, was to develop muscles, make strong men, or teach boys to perform feats. Of course no lady of breeding would so far forget herself as to take gymnasium work, and girls who ran or played out-of-doors were "tom-boys," and not fit companions for their more proper sisters. "Physical culture" later became a sort of fad, and many people were drawn to it, not so much for the sake of the training as because it was considered the thing to do. The school gradually awoke to the fact that an education which failed to recognize the claims of the body was one-sided and incomplete; hence physical training was added to the curriculum. The next step in its development came when the physical directors themselves rose to the requirements of their calling and demanded recognition, not as mere trainers of the body, but as physical educators. Then physical education became a profession, and men and women of a higher type of intelligence were led to adopt it as a life-work. There are still many who have not progressed from the ranks of the physical trainers or mere drill-masters, but fortunately for the future of the profession there are a gradually increasing number who recognize in physical education a means of developing a higher grade of morality and hence more efficient citizenship.

The Allegory of the Picture-Book and Its Practical Application

It is my purpose to discuss what training we can give to bring about this moral development. First of all, let me tell you the allegory of the picture-book. Once upon a time a little boy said to his brother, "Show me a pretty picture-book!" "Nay," said the brother, "I would rather show you this book with the ugly pictures, so that when you come to see ugly things you may know what they are. Look! see this, how hateful it is; and this, how hideous! and here again, this is enough to turn one cold with horror!"

"Oh!" said the child, and he shuddered. "They are horrible indeed; show me more!"

Next day the brother found the child before a

mirror, twisting his face this way and that, squinting and making a thousand horrible grimaces. "Why, little brother, why are you making yourself so hideous?"

"I want to see if I can look like the pictures in the book," said the child.

Alas! how many such poor little brothers and sisters there are. We seem fairly hedged about with hideous pictures of vice, corruption and evil, which shut out the light and from which there is no escape. The constant emphasis upon evil is bound to dull the moral sense. We need to hold fast to our ideals lest we lose them. Stress must be placed not so much upon the passive side of evil as upon the active side of good. What our boys and girls need to-day is not warning against pitfalls, but the development of active virtues which will help them conquer the temptations they are bound to meet. The only way to make efficient citizens is to develop in youth those qualities which ideal citizenship requires.

The Habit of Obedience and How It Teaches Respect for Law and Order

How does physical training develop such attributes? That is where the rub comes! We are not all of one mind as to what means are best; but I think we shall all agree that the first thing the child must learn is obedience. If he is to keep the laws of the State, to which he owes his allegiance as a man, he must be taught to observe the rules of the smaller community in which he lives as a child. How to convert this selfish, wilful little being into a thoughtful, law-abiding citizen is indeed a problem taxing our ability to the utmost. Immediate and accurate response to commands is the prime requisite of all forms of physical training, and it is impossible for a child to remain in class unless he obeys. He can't escape, kick and balk as he will; the young colt must in the end submit to the harness. In the gymnasium the physical director's word is law; let the child try all his tricks, but as soon as he discovers that any violation of the rules is followed by swift and sure punishment, with loss of privileges, he will have learned his first lesson in respect for law and order. Through constant response to commands he is forming the habit of obedience, and he obeys, not because he is made to, but because he can't help it.

The Habit of Self-Discipline and How Directed Play May Develop the Will

No community has much use for the human jellyfish who has no moral backbone. In other words, every citizen must be master of himself, and our second problem is how to develop in our pupils self-discipline. Physiologists tell us that healthful energy of the will is impossible without strong muscles, and the development of the will is directly dependent upon muscle habits. As an old adage words it: "The weaker the body, the more it commands; the stronger the body, the more it obeys." Motor training, then, must begin early in the life of the child. Teach him to be active; let him play as much as he can out-of-doors whenever possible, and let him play hard. The squeamish mothers who dress their children in white and tell them not to get dirty, who faint at the sight of a bleeding finger, or hold their breath whenever they see their darlings jump down from a tree, and call them into the house for fear they will get hurt, are not only robbing their children of their birthright, but are seriously interfering with their moral education. The mollycoddle who is good because he has never had a chance to be bad is more to be pitied than blamed, for he represents the type of man who in childhood had, unfortunately for himself, too little motor activity.

There comes a time, however, when undirected play does not offer sufficient motor training for the development of the will. Here is where the physical educator takes a hand, and by means of gymnastics he develops all parts of the body harmoniously, gives each part its due proportion of work and establishes right habits of exercise. Whether the activity is out-of-doors on the playground or indoors in the gymnasium, to have disciplinary value it must be carefully supervised. There is a certain exhilaration which comes when a large group works together in unison; for this reason class exercises are preferable to individual ones, for if exercise is pleasurable, the result is greater and more satisfactory. Mere good-will is no substitute for trained self-possession. The ability to keep one's self-control under the most trying conditions, such as one meets in apparatus-work, calls for a high degree of mastery. I well remember one weak, timid girl who refused to do the "courage jump" from the horse. She was so afraid, that it was a physical impossibility for her to do it. I kept her after class and worked with her almost half an hour before she finally screwed up her courage to jump. After the first leap, I made her do it perhaps ten times until she was no longer afraid. She never balked at anything after that, and became one of my most enthusiastic and energetic pupils. Several years later she came to me and said, "Whenever I run up against a snag, I remember the 'courage jump'!" For such a girl that was not only a physical but also a real moral achievement.

The Three Boys in the Field

To be angry at the right time and for a just cause is a moral necessity, and no resistance under sufficient provocation is craven and cowardly. An able-bodied man who cannot fight lacks virility and does not ring true. The problem of moral and physical education is not to eradicate this instinct, but to temper and direct it. Train a boy in the arts of self-defense, such as boxing, wrestling and fencing, then develop his judgment, and he will know how and when to fight. Youth's ideal of virtue must be actively, attractively manly, and not repulsively, negatively pious. Make him alive to the finger-tips, his muscles the eager and obedient servants of his will, and we have gone far toward instilling in him the principles of manly virtue. Help him to be like the boy in the fable of the serpent. Three boys were playing in a field when a passer-by called to them, "Beware, in the corner of that field is a poisonous serpent whose bite is death."

"Alas," said one, "how terrible! Let me flee from it," and he wept and ran from the place.

"Why," said the second, "should such a thing be here?" and he found a safe place and sat down to ponder on the matter. The third child picked up a stone and said, "Show it to me!"

Self-Sacrifice in the Interest of Coöperation and Community Welfare

To live harmoniously with one's fellows requires that each individual so conduct himself that the greatest good shall redound to the greatest number. This leads me to the discussion of the third moral quality required of the ideal citizen—self-sacrifice. Children are naturally selfish; they have no interest in things outside of their own desires. Watch them in the gymnasium and see what happens. They run to their favorite apparatus and try to monopolize it, they crowd to the front of the line instead of taking their turn at the end. The other children cry out: "Look at him hog it! Let's knock him out!" and he finds that in order to keep his place in the community he must sacrifice his individual wishes and take his turn with the others.

If a stranger were to visit my high-school classes during the first fifteen minutes of the hour, which is given over to "free play," he might almost imagine he were in a camp of hostile Indians on the warpath, or in a Wild West Show. Such howls! Such shrieks! Such laughter! But the girls are simply "letting off steam"—merely unbottling some of their animal spirits, a perfectly natural and necessary process. It is only because there are over a hundred of them shouting at once that the noise may seem a bit overpowering. When the whistle blows which calls them to order, however, there is not a sound, not a movement, and when the signal to "fall in" is given and they stand at "attention," they might be soldiers on parade. What change has taken place in them? Their natural inclinations are the same, even their desires are unchanged, but they have learned to understand that when the class is called to order each individual is entitled to but one one-hundredth of my attention, and if she requires more than that, because she is disorderly or inattentive, she forfeits her right to remain and is sent out of class until she has learned to sacrifice her own desires, even quell her natural inclinations, for the benefit of the whole group. This form of discipline has developed a fine spirit of coöperation and self-sacrificing among the girls.

Was there ever a child, who did not like to show off, who did not boast that he could "do sumpen you can't do"? We can make use of this tendency by developing student-leaders, thus giving them an opportunity to satisfy their longing to excel, but at the same time emphasizing the fact that they are to demonstrate the exercises, not for their own individual glory, but in order to help the others in the class who are less proficient than themselves. In choosing student-leaders I select not only those who are proficient in technique, but those whose influence upon the others will be wholesome, who stimulate and encourage the girls to do their best, who can always be depended upon to do the right thing, and who are themselves models to be copied. This system not only keeps the leaders up to a high grade of proficiency, but gives to the class as a whole a moral as well as a physical standard by which they may measure their own worth. Group competitions also furnish valuable training, for here, too, the individual must star, not for himself, but for the group that he represents.

The Appeal to the Sense of Honor and Truth

Now that our young paragon has learned obedience, self-discipline, and self-sacrifice, what yet remains to be developed? His sense of honor and truth. The discipline which is based upon fear of punishment will not make honest citizens, but often develops sneaks. In handling my large classes, every one of which averages over one hundred, it is manifestly impossible to watch each individual. I put the girls absolutely on their honor, impress upon them the fact that I am not there in the capacity of a policeman or a warden, and that when they break the rules they

are not outwitting authority, but are betraying the trust that is placed in them. This appeal to the sense of honor which is latent in even the worst boy or girl, seldom fails to call forth the desired response.

The Education of Artistic and Esthetic Tastes—"I Will Teach Them to Dance"

So far we have centered our attention upon those attributes which lead to an appreciation of what is good and true. It is now necessary to consider what training we can give to develop an appreciation of what is beautiful. That quality which enables us to appreciate beauty is called taste, and Schiller would have us believe that through the development of taste we at last arrive at a stage where "moral grandeur wins our homage, not alone because it is right, but because it is beautiful."

To awaken in youth a sense of physical beauty, such, for example, as a sculptor has, is the first step in leading him to an appreciation of ideal beauty. The fundamental thing about physical beauty is health; it is health which makes the cheeks glow, the eyes sparkle, and imparts to the countenance that vivacity and animation which we call charm. Such physical beauty is to be desired, not for itself, but for the sense of worthiness and power which it engenders.

One mother comes to me and says: "My daughter is such a 'tom-boy.' I wish you could do something to keep her well and strong and at the same time make her more womanly." A fashionably-gowned woman remarks: "My daughter will soon have a social position to maintain. What can you do to give her grace and poise?" Maggie's mother says: "My gal ain't no good round home. She jest sets around the hull time. She needs wakin' up and I wisht you'd put a little ginger into her!" The juvenile court sends us a girl who has made an unfortunate mistake and demands that we give her a chance to make good. The girls themselves demand, "Give us a good time, and let us have some fun." To each one I give the same answer, "I will teach them to dance," for that form of activity in which the physical, esthetic, and moral forces all find expression, which is the "supreme manifestation of the physical, and also the supreme symbol of the spiritual life," is dancing in its various forms, folk, national, gymnastic, and esthetic. G. Stanley Hall says: "Dancing is, perhaps, not excepting even music, the completest language of the emotions, and can be made one of the best schools of sentiment and even will, inoculating good states of mind, and exorcising bad ones as few other agencies have power to do. Right dancing can cadence the very soul, give poise and control, bring harmony between basal and finer muscles and also between feeling and intellect, body and mind. It can serve both as an awakener and a test of intelligence, predisposing the heart against vice, and turning the springs of character toward virtue."

Making Class Work More Pleasing

In this practical age, we must not forget that physical training is an art as well as a science. Some of the members of our profession would have us eliminate everything which is not of practical value. In their exhibitions they would show nothing but simple class work and always in regulation gymnastic costume. I agree that the exhibitions should represent work done in class and not exercises which have been carefully drilled for a certain occasion, but if that class work can be presented in a more pleasing way, with attractive costumes and bright-colored trimmings, we are adding greatly to the enjoyment not only of the spectators, but also of the participants themselves. The girls especially take great delight in preparing costumes, and display much artistic taste in suggestions for effects. I consider the participation in so-called esthetic dances in costume, which are in a measure interpretive, a valuable part of a girl's training, for by this means her imagination is stimulated, her desire for self-expression is satisfied, her ear for good music is cultivated, and her artistic and esthetic tastes are developed.

In appealing to the artistic sense, the method of rhythmic gymnastics of Emile Jaques Dalcroze is an interesting contribution to physical education. Eurhythmics, as they are called, follow the Greek idea of education, as they are founded on the study of rhythm, melody, and harmony expressed in bodily movement. To quote from a lecture of Dalcroze:

"The result of this education ought to put the completely-developed faculties of the individual at the service of art, and to give the latter the most subtle and complete of interpreters—the human body. For the body can become a marvelous instrument of beauty and harmony when it vibrates in time with artistic imagination and collaborates with creative thought. The body must become capable of responding to rhythms and realizing them naturally."

Manners are not exactly morals, but they are after all an essential part of character. Tennyson has said, "Manners are not idle, but the fruit of loyal nature and of noble mind." In our large public schools many pupils come from poor homes, with no opportunity for social training, no

elevating influences, no helpful environment. In my own work I have attempted to supply this lack of training by giving a series of parties to my gymnasium classes. In October the girls dress in fancy costumes and celebrate Hallowe'en with games and dancing. Just before the holidays, we have a Christmas tree, for which the girls dress as children and play games appropriate to their age and the season. February has several special days, and we celebrate with either a Valentine or Colonial party. Preceding the summer vacation we have a picnic in the country, at which we have an informal field-day. For all these parties the refreshments and entertainment are simple and inexpensive, and an admission fee of five cents covers all expenses. There is always an attendance of from 100 to 250 and the evident enjoyment of the girls, aside from the valuable training which such occasions offer, more than compensates for the slight expenditure of time, money, and energy.

"Play the Game!"—A Strict Code of Honor for All Sports—Conquering the Temptations in Athletics

There is an expression current in our daily speech which seems to me to epitomize all that is necessary for efficient citizenship—Play the game! The true sportsman must rigidly obey the rules of the game and abide by the decisions of the officials without protest; he must be absolute master of himself; he must sacrifice himself for the good of his team; he forms good habits while observing training; he must be unimpeachably honest in the face of overwhelming temptations—in short, he requires every good quality, physical, mental and moral. The editor of the "Atlantic Monthly" says that among the impersonal forces which mold the character of boys and girls, athletics takes first rank. "No other artificial discipline is so efficient, no vent so wholesome for the turbulent energies of youth."

Realizing the fundamental importance of athletics to the moral education of youth, it becomes of paramount importance that physical educators control and curb this force, that its influence may in all cases be uplifting and wholesome. While sports are dominated by the spirit to win at any cost and do anything, so long as one can "get away with it," while the idea of the players seems to be to circumvent the rules of the game and outwit the officials, trickery, deceit, cunning, and a double standard of honor are being developed, which permit practices that would not be tolerated in real life. This is not merely a question of the direction of school sports, it is a question of training future citizens, and physical educators cannot ignore its vital importance and sit idly by while its power is being prostituted by unscrupulous coaches.

Apply the same code of honor to sports which exist among gentlemen. Teach a boy that he must no more cheat in football than he would at cards, and that to take an unfair advantage in games is as dishonorable as to steal. Do not remove the temptations from athletics, but make boys "conquer them." "An athlete who does nothing but the fair and honest thing is sure to come out of the experience very much a man." Make rules which are just and can be entirely enforced, and then subject all dishonesty to severe punishment. Bring out those points in play which are worth thinking about, and emphasize them forcibly. Carry into life the ideals inculcated by clean sport. Teach our boys and girls to play the game of life fairly, courteously, cheerfully, and skilfully; to study and use only those tactics that succeed so long as they are fair —and we shall develop future citizens of a finer grade of morality and higher type of efficiency.

HABITS AND YOUTH

BY

SIR ALFRED PEARCE GOULD, M.D.

WHEN an action has been so often repeated that on the recurrence of the circumstance that first called it forth it is repeated without any conscious or voluntary effort, we call it a habit. Every action is the result of a nerve current passing along certain nerves to particular muscles, which then contract or relax. This nerve current or "motor impulse" is itself the result of a stimulus or excitement of a certain nerve-cell or several cells in the central nervous system, the stimulus being a sensory impulse or nerve-current passing up to the nerve-cells, or originating in the nerve-cells as the result of certain chemical and nutritive charges in their protoplasm. Nearly all our actions are the sum of several nerve-waves passing from many nerve-

cells or centers, along many nerve-fibers to many muscles and even many groups of muscles. One of the great aims of early education is to facilitate the correct grouping of these nerve-currents so that the appropriate muscles are contracted and relaxed at the right time and in due succession.

The Process of Brain Development

The development of the brain from childhood to manhood consists in the formation of nerve-links between various nerve-cells and centers, and in the multiplication of the originating cells. The result of this development is to increase the range of one's activities, but chiefly to make certain actions involuntary, that is, independent of the will; certain other actions are largely involuntary, that is, independent of the will as to detail. When this has been accomplished, habits have been formed. When a conscious voluntary act or series of acts has, by frequent repetition, become unconscious and involuntary, it is a habit. But habits have a wider influence than upon our acts only, they largely dominate our emotions too. It used to be thought that emotions prompted and found expression in actions but we now believe that actions excite emotions, and that, by training, a certain action or series of actions can be made more or less powerful exciters of emotions. For example, a boy who has a money-box given to him and repeatedly drops his pennies into that box, by that often-repeated act excites the emotions of greed and of love of possession. In later life the act of investing money, often repeated, excites the emotion of love of money, and the miser grudges himself other indulgences that he may be able to excite his favorite emotion by repeatedly investing money. The traditional miser does not count his money and handle his coins because he loves them, but because the action starts within him the, to him, pleasurable emotion of greed. Habits, then, are actions which by frequent repetition have become independent of the will, but they are of importance not only because they influence a man's acts, but also because they influence his emotions.

The Formation of Good Habits

The primary object of all education is the formation of good and helpful habits. By the formation of habits useful acts are made easy, rapid, and certain. What we call a "skilled" workman is one who has acquired the good habits of work. He becomes so, not by inheritance or initial advantage, but by careful attention to accuracy and exactness, until it has become a habit with him to do everything well—accurately, exactly—and we then call him "skilled." Or perhaps he has earned the title "skilled" by the extreme rapidity with which he does his work. And this, too, is merely the result of habit, for he has so trained his nervous system that when at work the necessary nervous impulses follow each other along the familiar path quickly, because that particular path is always kept open and unimpeded, and the connecting nerve-links have been made as short as possible.

So far as the activities of life are concerned, habits make our actions easier, quicker, less exacting and fatiguing, because our higher nervous powers, volition and attention, are less called upon. As regards the emotions, habits are of value because they can be linked on to good and helpful emotions, and made incapable of exciting depressing or evil emotions. The same daily work may in one man excite emotions of pleasure, satisfaction, benevolence, and in another the emotions of loathing, disgust, and ill-will. It becomes then of great importance to have our daily necessary or customary actions linked up with helpful, good emotions, and to have the links between our acts and evil emotions as defective and faulty as possible.

No "habit" is inborn or intuitive; it has to be acquired. No doubt some acquire given habits more readily than others. The time for habit-formation is the period between birth and full manhood, because every habit has a corresponding association of nerve-cells and nerve-fibers, and these associations and developments can only take place during the period of development. Habits can be influenced in later life by the exercise of the higher nervous powers, but at relatively great cost, and the very purpose of habits is to render unnecessary this expenditure of the higher nerve powers.

Habit Formation in Youth

The special feature of adolescence as distinct from childhood is that in the period of youth the individual's free-will comes into play. During infancy and childhood the developing unit does what he is told to do, and education is largely the outcome of obedience. Gradually, as childhood passes into youth and youth into manhood, the individual's will comes more and more into active play, either to assist or to resist the development of good and useful habits. The power of the will in this direction is enormous; it makes the difference between the good and the bad apprentice, between the scholar and the dunce, between the student and the idler. Those who have the opportunity of influencing youth,

especially all parents and teachers, should be keenly alive to this fact, and should do their utmost to bring to the help of educational methods the active intelligent will of the pupil.

One of the most valuable lessons an elder child can learn is his own power of making the process of education easy and effective. Too many think of the "drudgery" of work, and are all the time looking forward to escape from it and from its discipline—surely this is the very antithesis of education! When the power of work to make work easy is realized, and the youth knows that by "throwing his heart into" his work—that is, adding the force of his will—not only is the work in hand made lighter but all work of the kind made easier in the future, and his character as a good workman formed, toil becomes transformed. The realm of habit is larger therefore than those moral characteristics which are first thought of when we speak of a man's "habits." To acquire or to fail to acquire useful habits in this wider and truer sense is to succeed or to fail in the prime purpose of education, and in the realization of manly development. The charm, the preciousness, of the period of youth is that in its short compass lie the vast possibilities of all that habit involves. It is not simply a time of growth, or mere extension, for good or for ill; the man is not a larger, stronger, more learned child, but he is a developed child, a child who has acquired habits.

The Pupil's Cheerful Good-Will Is Demanded

But in the more limited range which is associated with the word our personal habits are of great importance. Such characteristics as truthfulness, honesty, self-control, unselfishness, cleanliness, neatness, punctuality, are of almost untold value. They, like habit in general, are all acquired; they are, too, acquired readily in childhood and youth, and they can be acquired quickly and pleasantly only when the educational help of others is supplemented by the cheerful good-will of the pupil. They are not best instilled by a system of rewards and punishments; each of them is its own supreme and abundant reward, as the want of any one of them brings its inevitable and heavy punishment. Nor should they ever be regarded as unusual adornments of a model life: they are the ordinary and necessary features of every well-developed life—and should be looked upon as commonplace, and just as natural as an upright stature, straight limbs, and strong muscles are in a well-grown man. Good habits are not special adornments, but the rightful possession of every properly-developed youth. How far this is realized in our homes and schools and colleges, our fields and our factories, it is not for me to discuss here. But it is to the perfecting of habits that we must look and for which we must strive.

7. Sex Hygiene and Instruction

THE PROBLEM OF TEACHING SEX TO CHILDREN

BY

JESSIE PHELPS

THE majority of parents are divided into two classes: First, those who believe it is better to let the entire subject of sex alone in the teaching of their children; and second, those who believe instruction should be given but say "I can't." Those who do not believe in giving instruction may again be divided into two groups; one group regards the subject as too sacred to be mentioned; and the others regard it as too vulgar to be mentioned. So those who would teach this part of nature's laws are confronted not only by their own inability, but by the almost insurmountable obstacle of the general taboo of the subject.

What we want are happy homes; beautiful children, much desired and planned for; clean, frank boys and girls; a race of brave, happy men and women. Most of us are consciously striving one way or another toward these ends, and are finding incentive to prepare a heaven on earth for our children's children. There is a no more direct way of starting this than by simple, honest living, but "our goodness," as Emerson says, "must have some edge to it." Our common honesty, which is proverbial and good, must be still better and penetrate deeper, seeking our finer ends. We shall always find plenty of need for effort in order to express truth fully, but none more urgent than the need of establishing in our own minds and those of our children the right thought of sex and sexual passion. If it is so sacred a thing to us that we cannot bear to have it touched, let us strive to approach it reverently, and express our feelings in such a way that our boys and girls may see it in a holy light too. Jesus did not hesitate to bless the little children, to forgive and love the prostitute, and to heal the sick. He recognized and dealt with the subject of sex. If we regard it as vulgar, let us tell ourselves many times over that God made things, and therefore they are fundamentally right.

If your children were about to set out upon a journey to a strange land, you would seek to give them what instruction you could as to both the dangers and the pleasures of the way. Yet here they are entering upon the wonderful journey of life for the first and the last time, and you stand by silent and say scarce a warning word though many of you see the pitfalls. But it is not of the pitfalls alone we should speak. Mostly, indeed, we need to exemplify in our own lives and by our own words that life is well worth living because it is full of joy and happiness and fulfilled desire.

Deal So Honestly with Children that They Will Forever Trust You

In order to be able to do this we must deal in all things so honestly with our children that they will forever trust us. It will not do to threaten and not fulfil, to promise and then compromise, or to treat them less considerately than we do other people. Children are very observing, and they know when their elders lie in act or word. Parents who spell out words, and refuse to tell the meaning of phrases, who run away when their children are asleep, who bribe them with goodies, who circumvent their desires, who, in short, deal in any but an open-handed and frank way with them, cannot hope to have the keen pleasure of sharing their soul secrets. Why is it young men and women so frequently seek other confidants than their own parents?

The blackest of the many white lies told to children is the one about the coming of the baby. Anything but the truth is told. To say God sent it is not the truth because the child questioner knows no more after being told that than before, and imagines all sorts of false means of transference of the baby from heaven to earth. Incidentally, he gets a wrong idea of God and heaven, and later when he knows the facts in the case his opinion of his mother, and his elders in general, is very much lowered. Then the truth may be that the devil had just as much to do with sending the baby as God, and when children recognize this fact they invariably wonder whether or not they themselves were born in love. Again belief in man and God is shaken.

Absolute frankness in these matters is not

really difficult if frankness is practised in all things. Parents can tell their children anything just so long as the children believe in the parents. If the children do not believe in the parents, whose fault is it? If parents have the full confidence of their boys and girls, the way to the telling of life's mysteries will be easy enough. "Where there's a will there's a way." If we believe it desirable for our children to have the right attitude of mind and to know the facts just as they are, let us set ourselves the task of forming their minds while they are still plastic, and of instilling the truth as it is. It may be hard, but parents were made to do hard things. It is part of their duty to do this thing, which is much more important than the providing of food and clothing. Moreover, we would not find it impossible if we only gave it as much thought as we do the buying of spring hats or the furnishing of the parlor.

Coöperation of Parents with the School Authorities

Besides the teaching in the home, parents can do much through the school; first, by knowing the conditions that prevail. Much more time should be spent visiting schools. The teacher needs you and should be glad to coöperate with you. You ought to know what the children do at recess and at noon, what they talk about on the way home from school, what condition the water closets are in and how they are used. You may, as parents, make the school what you will. You choose the teacher and you may determine largely what subjects are taught. Your teacher nowadays should be a mature, experienced, well-educated person, able to teach nature study, agriculture and physiology. Some pets and plants should be raised either in every home or at school, and the children should be taught from these all of life processes, including reproduction. This may and should be done as frankly and freely as the teaching of any other topic. Lastly, there should be monthly parents' meetings with the teacher, held in the schoolhouse, and the life problems of the children should be here freely discussed.

To recapitulate: The present attitude of the public mind toward sexual matters is low, and our sexual sins threaten to undo us as a people. The subject of sex is really neither too sacred nor too vulgar to be treated frankly and seriously, nor is it difficult to discuss it with boys and girls if we have but the right attitude of mind, know the facts and are good comrades with our children.

ADOLESCENT GIRLS

BY

DR. MARY SCHARLIEB

PROBABLY the most important years in anyone's life are those eight or ten preceding the twenty-first birthday. During these years one of the two great developmental factors known as *Heredity* bears its crop, and the seeds sown before birth and during childhood come to maturity. During these years also the other great developmental force known as *Environment* has full play, the still plastic nature is molded by circumstances, and the outcome of these two forces is seen in the manner of individual that results.

This time is generally alluded to under two heads: (1) Puberty, (2) Adolescence.

By Puberty we understand the period when the reproductive organs are developed, the boy or girl ceasing to be the neutral child and acquiring the distinctive characteristics of man or woman. The actual season of puberty varies in different individuals from the eleventh to the sixteenth year, and although the changes during this time are not sudden, they are comparatively rapid.

By Adolescence we understand the time when the individual is approximating to the adult type, puberty having been already accomplished. Adolescence corresponds to the latter half of the developmental period, and may be prolonged even up to twenty-five years.

Changes in the Bodily Framework during Puberty and Adolescence

During this period the girl's skeleton not only grows remarkably in size, but is also the subject of well-marked alterations and development. Among the most evident changes are those which occur in the shape and inclination of the pelvis. During the years of childhood the girl's pelvis has a general resemblance to that of the male, but with the advent of puberty the vertical portion of the hip bones becomes expanded and

altered in shape, it becomes more curved, and its inner surface looks less directly forward and more towards its fellow-bone of the other side. The brim of the pelvis, which in the child is more or less heart-shaped, becomes a wide oval, and consequently the pelvic girdle gains considerably in width. The heads of the thigh bones not only actually, in consequence of growth, but also relatively, in consequence of change of shape, become more widely separated from each other than they are in childhood, and hence the gait and the manner of running alter greatly in the adult woman. At the same time the angle made by the junction of the spinal column with the back of the pelvis, known as the sacro-vertebral angle, becomes better marked, and this also contributes to the development of the characteristic female type. No doubt the female type of pelvis can be recognized in childhood, and even before birth, but the differences of male and female pelves before puberty are so slight that it requires the eye of an expert to distinguish them. The very remarkable differences that are found between the adult male and the adult female pelvis begin to appear with puberty and develop rapidly, so that no one could mistake the pelvis of a properly developed girl of sixteen or eighteen years of age for that of a boy. These differences are due in part to the action of the muscles and ligaments on the growing bones, in part to the weight of the body from above and the reaction of the ground from beneath, but they are also largely due to the growth and development of the internal organs peculiar to the woman. All these organs exist in the normal infant at birth, but they are relatively insignificant, and it is not until the great developmental changes peculiar to puberty occur that they begin to exercise their influence on the shape of the bones.

There is no place in all nature where we find physical growth and development more beautifully fitted to purpose than in the body of the potential mother. The muscles of the girl partake in the rapid growth and development of her bony framework. Sometimes the muscles outgrow the bones, causing a peculiar lankiness and slackness of figure, and in other girls the growth of the bones appears to be too rapid for the muscles, to which fact a certain class of "growing pain" has been attributed.

Other Changes

Another part of the body that develops rapidly during these momentous years is the bust. The breasts become large, and not only add to the beauty of the girl's person, but also manifestly prepare by increase of their glandular elements for the maternal function.

Of less importance so far as structure is concerned, but of great importance to female loveliness and attractiveness, are the changes that occur in the clearing and brightening of the complexion, the luxuriant growth, glossiness, and improved color of the hair, and the beauty of the eyes, which during the years which succeed puberty acquire a new and singularly attractive expression.

The young girl's hands and feet do not grow in proportion with her legs and arms, and appear to be more beautifully shaped when contrasted with the more fully developed limb.

With regard to the internal organs, the most important are those of the pelvis. The uterus, or womb, destined to form a safe nest for the protection of the child until it is sufficiently developed to maintain an independent existence, increases greatly in all its dimensions and undergoes certain changes in shape; and the ovaries, which are intended to furnish the ovules, or eggs (the female contribution towards future human beings), also develop in both size and structure.

Owing to rapid growth and to the want of stability of the young girl's tissues the years immediately succeeding puberty are not only those of rapid physiological change, but they are those during which irreparable damage may be done unless those who have the care of young girls understand what these dangers are, how they are produced, and how they may be averted.

With regard to the bony skeleton, lateral curvature of the spine is, in mild manifestation, very frequent, and is too common even in the higher degrees. The chief causes of this deformity are:

(1) The natural softness and want of stability in the rapidly growing bones and muscles,

(2) The rapid development of the bust, which throws a constantly increasing burden on these weakened muscles and bones, and

(3) The general lassitude noticeable among girls at this time which makes them yield to the temptation to stand on one leg, to cross one leg over the other, and to write or read leaning on one elbow and bending over the table, whereas they ought to be sitting upright. Unless constant vigilance is exerted, deformity is pretty sure to occur, a deformity which always has a bad influence over the girl's health and strength, and which, in those cases where it is complicated by the pathological softness of bones found in cases of rickets, may cause serious alteration in shape and interfere with the functions of the pelvis in later life.

Changes in the Mental Nature

These are at least as remarkable as the changes in the bodily framework. There is a slight diminution in the power of memorizing, but the faculties of attention, of reasoning, and of imagination develop rapidly. Probably the power of appreciation of the beautiful appears about this time, a faculty which is usually dormant during childhood. More especially is this true with regard to the beauty of landscape; the child seldom enjoys a landscape as such, although isolated beauties, such as that of the flowers, may sometimes be appreciated.

As might be anticipated, all things are changing with the child during these momentous years—its outlook on life, its appreciation of other people and of itself, alter greatly and continuously. The wonderfully rapid growth and alterations in structure of the generative organs have their counterpart in the mental and moral spheres; there are new sensations which are scarcely recognized and are certainly not understood; vague feelings of unrest, ill-comprehended desires, and an intense self-consciousness take the place of the unconscious egotism of childhood.

The processes of nature as witnessed in the season of spring have their counterpart in the changes that occur during the early years of adolescence. The earth warmed by the more direct rays of the sun and softened by recurring showers is transformed in a few weeks from its bare and dry winter garb into the wonderful beauty of spring. This yearly miracle fails to impress us as it should do because we have witnessed it every year of our lives, and so, too, the great transformation from child to budding woman fails to make its appeal to our understanding and sympathy because it is of so common occurrence.

If it were possible for adults really to remember their own feelings and aspirations in adolescent years, or if it were possible for us with enlightened sympathy to gain access to the enchanted garden of youth, we should be more adequate guides for the boys and girls around us. As it is we entirely fail to appreciate the heights of their ambitions, hopes, and joys, and we have no measure with which to plumb the depth of their fears, their disappointments, and their doubts. The transition between radiant joy and confident hope in the future to a miserable misinterpretation of sensations both physical and psychical are rapid. It is the unknown that is terrible to us all, and to the child the changes in its body, the changes in its soul and spirit, which we pass by as commonplace, are full of suggestions of abnormality, of disaster, and of death. Young people suffer much from the want of comprehension and intelligent sympathy of their elders, much also from their own ignorance and too fervid imagination.

The instability of the bodily tissues and the variability of their functions find a counterpart in the instability of the mental and moral natures and in the variability of their phenomena. Adolescents, indeed, "never continue in one stay"; left to themselves they will begin many pursuits and persevere with and finish nothing.

Youth's Changing Interests

Youth is the time for rapidly-succeeding friends, lovers, and heroes. The school-fellow or teacher who is adored to-day may become the object of indifference or even of dislike to-morrow. Ideas as to the calling or profession to be adopted change rapidly, and opinions upon religion, politics, etc., vary from day to day. It is little wonder that there is a special type of adolescent insanity differing entirely from that of later years, one in which, owing to the want of full development of mental faculties, there are no systematized delusions, but a rapid change from depression and melancholy to exaltation bordering on mania. Those parents and guardians who know something of the peculiar physical and mental conditions of adolescence will be best prepared both to treat the troubles wisely, and by sympathy to help the young people under their care to help themselves.

One of the phenomena of adolescence is the dawn of the sexual instinct. This frequently develops without the child knowing or understanding what it means. More especially is this true of young girls whose home life has been completely sheltered.

Probably in these days, when there is more intermingling of the sexes, the girl's outlook is franker, and, so far as this is concerned, healthier, than it was forty or fifty years ago. It is very amusing to elders to hear a boy scarcely in his teens talking of his "best girl," or to see the little lass wearing the color or ornament that her chosen lad admires. It is most unwise for adults to tease children in this way, as it makes them self-conscious, and centers their minds upon their own innocent child-loves, which will do no harm in their passing, which may, indeed, do a great deal of good in teaching courtesy and chivalry. It is true that the "best girl" varies from week to week if not from day to day, but this special regard for a member of the opposite sex announces the dawn of a simple

sentiment that will, a few years later, blossom out into the real passion which may fix a life's destiny.

Parental Responsibility and Privilege

The mental and moral changes that occur during the early years of adolescence call for help and sympathy of an even higher order than do the changes in physical structure and function. Some of these changes, such as shyness and reticence, may be the cause of considerable suffering to the girl and a perplexity to her elders, but on the whole they are comparatively easy of comprehension, and are more likely to elicit sympathy and kindness than blame.

It is far otherwise with such changes as unseemly laughter, rough manners, and a nameless difference in the girl's manner when in the presence of the other sex. A girl who is usually quiet, modest, and sensible in her behavior suddenly becomes boisterous and self-asserting; there is a great deal of giggling, and altogether a disagreeable transformation which too frequently involves the girl in trouble with her mother or other guardian, and is very frequently harshly judged by the child herself. In proportion as discipline has been taught and self-control acquired, these outward manifestations are less marked, but in the case of the great majority of girls there are at any rate impulses having their origin in the yet immature and misunderstood sex impulse which cause the young woman herself annoyance and worry although she is as far from understanding their origin as her elders may be.

Importance of Teaching Self-Control

The remedies for these troubles are various. First in order of time and in importance comes a habit of self-control and self-discipline that ought to be coeval with conscious life. Fathers and mothers are themselves to blame if their girl lapses from good behavior when they have not inculcated ideals of obedience, duty and self-discipline from babyhood. It seems such a little thing to let the child have its run of the cake-basket and the sweet-box; it is in the eyes of many parents so unimportant whether the little one goes to bed at the appointed time or ten minutes later; they argue that it can make no difference to her welfare in life or to her eternal destiny whether her obedience is prompt and cheerful or grudging and imperfect.

One might as well argue that the proper planting of a seed, its regular watering, and the influences of sun and wind make no difference to the life of a tree. We have to bear carefully in mind that those who sow an act reap a habit, who sow a habit reap a character, who sow a character reap a destiny both in this world and in that which is eternal. It is mere selfishness, unconscious, no doubt, but none the less fatal, when parents to suit their own convenience omit to inculcate obedience, self-restraint, habits of order and unselfishness in their children.

Youth is the time when the soul is apt to be shaken by sorrow's power and when stormy passions rage. The tiny rill starting from the mountain side can be readily deflected east or west, but the majestic river hastening to the sea is beyond all such arbitrary directions. So it is with the human being; the character and habit are directed easily in infancy, with difficulty during childhood, but they are well-nigh impossible of direction by the time adolescence is established.

Training Must Begin in Infancy

Those fathers and mothers who desire to have happiness and peace in connection with their adolescent boys and girls must take the trouble to direct them aright during the plastic years of infancy and childhood.

All natural instincts implanted in us by Him who knew what was in the heart of man are in themselves right and good, but the exercise of these instincts may be entirely wrong in time or in degree. The sexual instinct, the affinity of boy to girl, the love of adult man and woman, are right and holy when exercised aright, and it is the result of "spoiling" when these good and noble instincts are wrongly exercised.

All who love their country, all who love their fellow-men, and all who desire that the kingdom of God should come, must surely do everything that is in their power to awaken the fathers and mothers of the land to a sense of their heavy responsibility and of their high privilege. In this we are entirely separated from and are higher than the rest of the animal creation, in that on us lies the duty not only of calling into life a new generation of human beings, but also the still higher duty, the still greater privilege and the wider responsibility of bringing up those children to be themselves the worthy parents of the future, the supporters of their country's dignity, and joyful citizens of the household of God.

The Gang Spirit

Another characteristic of adolescence is to be found in gregariousness, or what has been sometimes called the *gang spirit*. Boys, and to almost as great a degree girls, form themselves into

companies or gangs, which frequently possess a high degree of organization. They elaborate special languages, they have their own form of shorthand, their passwords, their rites and ceremonies. The gang has its elected leader, its officers, its members, and although it is liable to sudden disruption and seldom outlasts a few terms of school life, each succeeding club or company is for the time being of paramount importance in the estimation of its members. The gang spirit may at times cause trouble and lead to anxiety, but if rightly directed it may be turned to good account. It is the germ of the future capacity to organize men and women into corporate life—the very method by which much public and national work is readily accomplished, but which is impossible to accomplish by individual effort.

Changes in the Religion of the Adolescent

The religion of the adolescent is apt to be marked by fervor and earnest conviction, the phenomenon of "conversion" almost constantly occurring during adolescence. The girl looks upon eternal truths from a completely new standpoint, or at any rate with eyes that have been purged and illuminated by the throes of conversion. From a period of great anxiety and doubt she emerges to a time of intense love and devotion, to an eager desire to prove herself worthy, and to offer a sacrifice of the best powers she possesses.

Unfortunately for peace of mind the happy epoch succeeding conversion not unfrequently ends in a dismal time of intellectual doubt and spiritual darkness. Just as the embryonic love of the youthful adolescent leads to a time when the opposite sex is rather an object of dislike than of attraction, so the fervor of early conversion is apt to lead to a time of desolation; but just as the incomplete sex love of early adolescence finds its antitype and fine flower in the later fully developed love of honorable man and woman, so does the too rapturous and uncalculating religious devotion of these early years revive after the period of doubt, transfigured and glorified into the religious conviction and devotion which makes the strength, the joy, and the guiding principle of adult life.

Hero-Worship

Much depends on the circumstances and people surrounding the adolescent. The unbounded capacity for hero-worship leads in many instances to a conscious or unconscious copying of parent, guardian, or teacher, and although the ideals of the young are apt far to outpace those of the adult whose days of illusion are over, yet they are probably formed on the same type. One sees this illustrated by generations in the same family holding much the same religious or political opinions and showing the same aptitude for certain professions, games, and pursuits. Much there is in heredity, but probably there is still more in environment.

Our Duties toward Adolescent Girls

These may be briefly summed up by saying that we have to provide adolescent girls with all things that are necessary for their souls and their bodies, but any such bald and wholesale enunciation of our duty helps but little in clearing one's ideas and in pointing out the actual manner in which we are to perform it.

First, with regard to the bodies of adolescent girls. Their primary needs, just like the primary needs of all living beings, are food, warmth, shelter, exercise and rest, with special care in sickness.

In spite of the great advance of knowledge in the present day, it is doubtful whether much practical advance has been made in the dietetics of children and adolescents, and it is to be feared that our great schools are especially deficient in this most important respect. Even when the age of childhood is past, young people require a much larger amount of milk than is usually included in their diet sheet. It would be well for them to begin the day with porridge and milk or some such cereal preparation. Coffee or cocoa made with milk should certainly have the preference over tea for breakfast, and in addition to the porridge or other such dish, fish, egg, or bacon, with plenty of bread and butter, should form the morning repast. The midday meal should consist of fresh meat, fish, or poultry, with an abundance of green vegetables and a liberal helping of sweet pudding. The articles of diet which are most deficient in our lists are milk, butter, and sugar. There is an old prejudice against sugar which is quite unfounded so far as concerns the healthy individual. Cane sugar has recently been proved to be a most valuable muscle food, and when taken in the proper way for sweetening beverages, fruit, and puddings, it is entirely good. Where animal food has been taken both at breakfast and dinner, the evening meal might well be bread and butter, bread and milk, or milk pudding with stewed or fresh fruit. But it is different in the case of those adolescents whose midday meal is necessarily slight, and who ought to have a thoroughly good dinner or supper early in the evening.

An invariable rule with regard to the food of

children should be that their meals should be regular, that they should consist of good, varied, nourishing food taken at regular hours, and that nothing should be eaten between meals. The practice of eating biscuits, fruit, and sweets between meals during childhood and adolescence not only spoils the digestion and impairs the nutrition at the time, but it is apt to lay the foundation of a constant craving for something which is only too likely to take the form of alcoholic craving in later years. It is impossible for the stomach to perform its duty satisfactorily if it is never allowed rest, and the introduction of stray morsels of food at irregular times prevents this, and introduces confusion into the digestive work because there will be in the stomach at the same time food in various stages of digestion.

The Importance of Keeping Warm

Warmth is one of the influences essential to health and to sound development, and although artificial warmth is more urgently required by little children and by old people than it is by young adults, still, if their bodies are to come to their utmost possible perfection, they require suitable conditions of temperature. This is provided in the winter partly by artificial heating of houses and partly by the wearing of suitable clothing. Ideal clothing is loose of texture and woven of wool, although a fairly good substitute can be obtained in materials that are made from cotton treated specially.

This is not the time or place in which to insist on the very grave dangers that accompany the use of ordinary flannelette, but a caution must be addressed in passing to those who provide clothing for others. In providing clothes it is necessary to remember the two reasons for their existence: (1) to cover the body, and (2) so far as possible to protect a large area of its surface against undue damp and cold.

Adolescents, as a rule, begin early to take a great interest in their clothes. From the time that the appreciation of the opposite sex commences, the child who has hitherto been indifferent or even slovenly in the matter of clothing takes a very lively interest in it. Indeed, the adornment of person and the minute care devoted to details of the toilet by young people of both sexes remind one irresistibly of the preening of the feathers, the strutting and other antics of birds before their mates.

Girls especially are apt to forget the primary object of clothing, and to think of it too much as a means of adornment. This leads to excesses and follies such as tight waists, high-heeled shoes, to the ungainly crinoline or to indecent scantiness of skirts. Direct interference in these matters is badly tolerated, but much may be accomplished both by example and by cultivating a refined and artistic taste in sumptuary matters.

The Necessity of Sufficient Sleep

Among the most important of the factors that conduce to well-being both of body and mind must be reckoned sleep. Trained and careful observers agree that the majority of young people get far too little rest and sleep. We have to remember that although fully-grown adults will take rest when they can get it in the daytime, young people are too active, and sometimes too restless, to give any repose to brain or muscle except during sleep. In the early years of adolescence ten hours' sleep is none too much; even an adult in full work ought to have eight hours, and still more is necessary for the rapidly-growing, continually-developing, and never-resting adolescent. It is unfortunately a fact that even in the boarding-schools of the well-to-do the provision of sleep is too limited, and for the children of the poor whose homes are far from comfortable and who are accustomed to doing pretty nearly as their elders do, the night seldom begins before eleven or even twelve o'clock.

Great harm is done by allowing children to take work home with them from school; if possible the day's work should finish with school hours, and the scanty leisure should be spent in healthful exercise or in sleep.

In considering the question of adequate sleep it would be well to think of the conditions of healthful sleep.

For sleep to be refreshing and health-giving the sleeper ought to have a comfortable bed and an abundant supply of fresh air. Unfortunately the great majority of our people both in town and country do not enjoy these advantages. In both town and country there is a great deficiency of suitable dwellings at rents that can be paid with the usual rate of wages. In consequence families are crowded into one, two, or three rooms, and even in the case of people far above the status of day laborers and artisans it is the exception and not the rule for each individual to have a separate bed. The question of ventilation is certainly better understood than it was a few years ago, but still leaves much to be desired, and there is still an urgent necessity for preaching the gospel of the open window.

Beneficial Effects of Exercise

In considering the question of the exercise of adolescents, one's thoughts immediately turn to athletics, games, and dancing. Team

games appear to be the especial property of adolescents, for young children are more or less individualistic and solitary in many of their games, but boys and girls alike prefer team games from the pre-adolescent age up to adult life. It is certain that no form of exercise is superior to these games; they call into play every muscle of the body, they make great demands on accuracy of eye and coördination, they also stimulate and develop habits of command, obedience, loyalty, and *esprit de corps*. In the public schools team games are played as one might say in a religious spirit. The boy or girl who attempts to take an unfair advantage or who habitually plays for his or her own hand, is quickly made to feel a pariah and an outcast. Among the greatest blessings that are conveyed to the children is the instruction not only in the technique of team games but also in the inoculation of the spirit in which they ought to be played. It is absolutely necessary that the highest ideals connected with games should be handed down, for thus the children who perhaps do not always have the highest ideals before them in real life may learn through this mimic warfare how the battle of life must be fought and what are the characters of mind and body that deserve and ensure success. It has been well said that those who make the songs of a nation help largely to make its character, and equally surely those who teach and control the games of the adolescents are making or marring a national destiny.

Gymnastics—Scandinavian Methods

Among the means of physical and moral advancement may be claimed gymnastics. And here, alas, this nation can by no means claim to be *facile princeps*. Not only have we been relatively slow in adopting properly systematized exercises, but even to the present day the majority of elementary schools are without properly fitted gymnasia and duly qualified teachers. The small Scandinavian nations have admirably fitted gymnasiums in connection with their *Folkskolor*, which correspond to our elementary schools. The exercises are based on those systematized by Ling; each series is varied and is therefore the more interesting, and each lesson commences with simple, easily performed movements, leading on to those that are more elaborate and fatiguing, and finally passing through a descending series to the condition of repose.

When the question is put, "How often do you have gymnastics at your school?" the answer is frequently "We have none," or, "Half an hour once a week." Exercises such as Ling's not only exercise every muscle in the body in a scientific and well-regulated fashion, but being performed by a number of pupils at once in obedience to words of command, discipline, coöperation, obedience to teachers, and loyalty to comrades are taught at the same time. The deepest interest attaches to many of the more complex exercises, while some of them make large demands on the courage and endurance of the young people.

Again, in Scandinavia the State provides knickerbockers, tunics, and gymnasium shoes for those children whose parents are too poor to provide them, and again, in Scandinavia there is very frequently the provision of bathrooms in which the pupils can have a shower bath and rub-down after the exercises. These bathrooms in connection with the gymnasia need not necessarily be costly, indeed many of them in Stockholm and Denmark merely consist of troughs in the cement floor, on the edge of which the children sit in a row while they receive a shower bath over their heads and bodies. The feet get well washed in the trough, and the smart douche of water on head and shoulders acts as an admirable tonic.

Another form of exercise which ought to be taught to every child if possible is swimming, and this again is a relatively cheap luxury too much neglected among us. Certainly there are public baths, but there are not enough to permit of all the elementary school-children bathing even once a week, and still less have they the opportunity of learning to swim. There is much to be done yet before we can be justly proud of our national system of education. We must not lose sight of the ideal with which we started, viz. that we should endeavor to do the best that is possible for our young people in body, soul, and spirit. The three parts of our nature are intertwined, and a duty performed to one part has an effect on the whole.

Care of Adolescents in Illness

If measured by the death-rate the period of adolescence should cause us little anxiety, but a careful examination into the state of health of children of school age shows us that it is a time in which disorders of health abound, and that although these disorders are not necessarily, nor even generally, fatal, they are frequent, they spoil the child's health, and inevitably bear fruit in the shape of an injurious effect on health in after life.

That the health of adolescents should be unstable is what we ought to expect from the general instability of the organism due to the rapidity of growth and the remarkable developmental

changes that are crowded into these few years. Rapidity of growth and increase of weight are very generally recognized, although their effects upon health are apt to be overlooked. On the other hand, the still more remarkable development that occurs in adolescence is very generally ignored.

As a general rule the infectious fevers, the so-called childish diseases, such as measles, chicken-pox, and whooping-cough, are less common in adolescence than they are in childhood, while the special diseases of internal organs due to their over-work, or to their natural tendency to degeneration, is yet far in the future. The chief troubles of adolescents appear to be due to over-stress which accompanies rapid development, to the difficulty of the whole organism in adapting itself to new functions and altered conditions, and no doubt in some measure to the unwisdom both of the young people and of their advisers.

This is not the place for a general treatise on the diseases of adolescents, but a few of the commonest and most obvious troubles should be noted.

Don't Neglect the Teeth

It is quite surprising to learn what a very large percentage of men are refused enlistment in the army on account of decayed or defective teeth, and anyone who has examined the young women candidates for the civil service and for missionary societies must have recognized that their teeth are in no way better than those of the young men. In addition to several vacancies in the dental series it is by no means unusual to find three or even five teeth severely decayed. The extraordinary thing is that not only the young people and their parents very generally fail to recognize the gravity of this condition, but that even their medical advisers have frequently acquiesced in a state of things that is not only disagreeable but dangerous. A considerable proportion of people with decayed teeth have also suppuration about the margins of the gums and around the roots of the teeth. This *pyorrhœa alveolaris,* as it is called, constitutes a very great danger to health; the purulent discharge teems with poisonous micro-organisms, which being constantly swallowed are apt to give rise to septic disease in various organs. It is quite probable that some cases of gastric ulcer are due to this condition, so too are some cases of appendicitis; it has been known to cause a peculiarly fatal form of heart disease, and it is also responsible for the painful swelling of the joints of the fingers, with wasting of the muscles and general weakness which goes by the name of rheumatoid arthritis. In addition to this there are many local affections, such as swollen glands in the neck, that may be due to this poisonous discharge. One would think that the mere knowledge that decayed teeth can cause all this havoc would lead to a grand rush to the dentist, but so far from this being the case, doctors find it extremely difficult to induce their patients to part with their unsightly, evil-smelling, and dangerous decayed teeth.

The Throat Should Receive Careful Attention

Some throat affections, such as diphtheria and quinsy, are well known and justly dreaded, and although many a child's life has been sacrificed to the slowness of its parents to procure medical advice and the health-restoring antitoxin, yet on the whole the public conscience is awake to this duty. Far otherwise is it with chronic diseases of the tonsils; they may be riddled with small cysts, they may be constantly in a condition of sub-acute inflammation dependent on a septic condition, but no notice is taken except when chill, constipation, or a general run-down state of health aggravates the chronic into a temporary acute trouble. And yet it is perhaps not going too far to say that for one young girl who is killed or invalided rapidly by diphtheria there are hundreds who are condemned to a quasi-invalid life owing to this persistent supply of poison to the system.

Another condition of the throat which causes much ill-health is well known to the public under the name of adenoids. Unfortunately, however, many people have an erroneous idea that children will outgrow adenoids. Even if this were true it is extremely unwise to wait for so desirable an event. Adenoids may continue to grow, and during the years that they are present they work great mischief. Owing to the blocking of the air-passages the mouth is kept constantly open greatly to the detriment of the throat and lungs. Owing to the interference with the circulation at the back of the nose and throat, a considerable amount both of apparent and real stupidity is produced, the brain works less efficiently, and the child's appearance is ruined by the flat, broad bridge of the nose and the gaping mouth. The tale of troubles due to adenoids is not even yet exhausted; a considerable amount of discharge collects about them which it is not easy to clear away, it undergoes very undesirable changes, and is then swallowed to the great detriment of the stomach and the digestion. The removal of septic tonsils and of adenoids is most urgently necessary, and usually involves little

distress or danger. The change in the child's health and appearance that can thus be secured is truly wonderful, especially if it be taught, as it should be, to keep its mouth shut and to breathe through the nose. In the course of a few months the complexion will have cleared, the expression will have regained its natural intelligence, digestion will be well performed, and the child's whole condition will be that of alert vigor instead of one of listless and sullen indifference.

Errors of Digestion

From the consideration of certain states of the nose, mouth and throat, it is easy to turn to what is so often their consequence. Many forms of indigestion are due to the septic materials swallowed. It would not, however, be fair to say that all indigestion is thus caused; not infrequently indigestion is due to errors of diet, and here the blame must be divided between the poverty and ignorance of many parents and the self-will of adolescents. The foods that are best for young people, such as bread, milk, butter, sugar, and eggs, are too frequently scarce in their dietaries, and again, in the case of many girls whose parents are able and willing to provide them with a thoroughly satisfactory diet-sheet, dyspepsia is caused by their refusal to take what is good for them, and by their preference for unsuitable and indigestible viands.

A further cause of indigestion must be sought in the haste with which food is too often eaten. The failure to rise at the appointed time leads to a hasty breakfast, and this must eventually cause indigestion. The food imperfectly masticated and not sufficiently mixed with saliva enters the stomach ill-prepared, and the hasty rush to morning school or morning work effectually prevents the stomach from satisfactorily dealing with the mass so hastily thrust into it.

There is an old saying that "Those whom the gods will destroy they first make mad," and in many instances young people who fall victims to the demon of dyspepsia owe their sorrows, if not to madness, at any rate to ignorance and want of consideration. The defective teeth, septic tonsils, discharging adenoids, poverty of their parents and their own laziness, all conspire to cause digestive troubles which bear a fruitful crop of further evils, for thus are caused such illnesses as anæmia and gastric ulcer.

Blood-Poisoning Caused by Constipation

Constipation claims a few words to itself. And here again we are brought to consider certain septic processes. The refuse of the food should travel along the bowels at a certain rate, but if owing to sluggishness of their movements or to defects in the quality and amount of their secretion, they are too long retained, the masses become unduly dry, and, constantly shrinking in volume, are no longer capable of being urged along the tube at the proper rate. In consequence of this the natural micro-organisms of the intestine cease to be innocent and become troublesome; they lead in the long run to a peculiar form of blood-poisoning, and to so many diseased conditions that it is impossible to deal with the details of their various forms at the present moment.

The existence of constipation is too often a signal for the administration of many doses of medicine. The wiser, the less harmful, and the more effectual method of dealing with it would be to endeavor to secure the natural action of the bowels by a change in the diet, which should contain more vegetable and less animal constituents. The girl should also be instructed to drink plenty of water, either hot or cold, a large glassful on going to bed and one on first awaking; and also if necessary an hour before each meal. Steady exercise is also of very great service, and instead of starting so late as to have no time for walking to school or work, a certain portion of the daily journey should be done on foot. Further, in all cases where it is possible, team games, gymnastics, and dancing should be called in to supplement the walk.

Headache from Imperfect Vision — The Folly of Objecting to Glasses

Headache may be due to so many different causes that it would be impossible in this article adequately to consider them, but it would not be fair to omit to mention that in many cases the headache of young people is due to their want of spectacles The idea that spectacles are only required by people advanced in life is by this time much shaken, but even now not only many parents object to their children enjoying this most necessary assistance to imperfect vision, but also employers may be found sufficiently foolish and selfish to refuse to employ those who need to wear glasses. The folly as well as selfishness of this objection is demonstrated by the far better work done by a person whose vision has been corrected, and the absolute danger incurred by all who have to deal with machinery if vision is imperfect. Among other causes for headache are the defects of mouth, throat, stomach, and bowels already described, because in all of them there is a supply of septic material to the blood which naturally causes headache and other serious symptoms.

Abnormalities of Menstruation

The normal period should occur at regular intervals about once a month. Its duration and amount varies within wide limits, but in each girl it should remain true to her individual type, and it ought not to be accompanied by pain or distress. As a rule the period starts quite normally, and it is not until the girl's health has been spoiled by over-strain of body or mind, by unwise exertion during the period, or by exposure to damp or cold, that it becomes painful and abnormal in time or in amount.

One of the earliest signs of approaching illness, such as consumption, anæmia, and mental disorder, is to be found in the more or less sudden cessation of the period. This should always be taken as a danger-signal and as indicating the need of special medical advice.

Another point that should enter into intimate talk with girls is to make them understand the co-relation of their own functions to the great destiny that is in store. A girl is apt to be both shocked and humiliated when she first hears of menstruation and its phenomena. Should this function commence before she is told about it, she will necessarily look upon it with disgust and perhaps with fear. It is indeed a most alarming incident to a girl who knows nothing about it, but if, before the advent of menstruation, it be explained to her that it is a sign of changes within her body that will gradually, after the lapse of some years, fit her also to take her place among the mothers of the land, her shame and fear will be converted into modest gladness, and she will readily understand why she is under certain restrictions, and has at times to give up work or pleasure in order that her development may be without pain, healthy, and complete.

Mental and Moral Training

The years of adolescence, during which rapid growth and development inevitably cause so much stress and frequently give rise to danger, are the very years in which the weight of school education necessarily falls most heavily.

In the case of girls more particularly, great care has to be exercised not to attempt to teach too much, and to give careful consideration to the physiological peculiarities of the pupils. It is impossible for girls who are undergoing such rapid physiological and psychical changes to be always equally able and fit for strenuous work. There are days in every girl's life when she is not capable of her best work, and when a wise and sympathetic teacher will see that it is better for her to do comparatively little. And yet these slack times are just those in which there is the greatest danger of a girl indulging in day-dreams, and when her thoughts need to be more than usually under control. These times may be utilized for lighter subjects and for such manual work as does not need great physical exertion. It is not a good time for exercises, for games, for dancing, and for gardening, nor are they the days on which mathematics should be pressed, but they are days in which much supervision is needed, and when time should not be permitted to hang heavily on hand.

Just as there are days in which consideration should be shown, so too there are longer periods of time in which it is unwise for a girl to be pressed to prepare for or to undergo a strenuous examination. The brain of the girl appears to be as good as that of the boy, while her application, industry, and emulation are far in advance of his, but she has these physiological peculiarities, and if they are disregarded there will not only be the occasional disastrous failure in bodily or mental health, but girls as a class will fail to do the best work of which they are capable, and will fail to reap the fullest advantage from an education which is costly in money, time, and strength.

It follows that the curriculum for girls presents greater difficulties than the curriculum for boys, and that those responsible for the organization of a school for girls need to be women of great resource, great patience, and endowed with much sympathetic insight. The adolescent girl will generally do little to help her teachers in this matter. She is incapable of recognizing her own limitations, she is full of emulation, and is desirous of attaining and keeping a good position not only in her school but also in the university or in any other public body for whose examination she may present herself. The young girl most emphatically needs to be saved from herself, and she has to learn the lessons of obedience and of cheerful acquiescence in restrictions that certainly appear to her simply vexatious.

One of the difficulties in private schools arises from the necessity of providing occupation for every hour of the waking day while avoiding the danger of over-work with its accompanying exhaustion. In the solution of this problem such subjects as gymnastics, games, dancing, needlework, cooking, and domestic economy will come in as a welcome relief from the more directly intellectual studies, and equally as a relief to the conscientious but hard-pressed woman who is trying to save her pupils from the evils of unoccupied time on the one hand and undue mental pressure on the other.

Vocation and Vocational Selection

Boys, and to a less extent girls, who leave school at fourteen are not likely to suffer in the same way or from the same causes. One of the difficulties in their case is that they leave school just when work is becoming interesting and before habits of study have been formed, indeed before the subjects taught have been thoroughly assimilated, and that therefore in the course of a few years little may be left of their painfully acquired and too scanty knowledge.

Here, too, there are many problems to be solved, one among them being the great necessity of endeavoring to correlate the lessons given in school to the work that the individual will have to perform in after life. Girls of the elementary schools, in addition to reading, writing, and simple arithmetic, sufficient to enable them to write letters, to read books, and to keep simple household accounts, ought to be taught the rudiments of cookery, the cutting out and making of garments, and the best methods of cleansing as applied to household utensils and clothing. In addition, and as serious subjects, not merely as a recreation, they should be taught gymnastics and part singing. No doubt in individual schools much of this modification of the curriculum has been accomplished, but more remains to be done before we can be satisfied that we have done the best in our power to fit the children of the country for their life's work.

Another subject to which the attention of patriots and philanthropists ought to be turned is the sort of employment open to children at school-leaving age. The greatest care should be taken to diminish the number of those who endeavor to achieve quasi-independence in those occupations which are well known as "blind alleys." The young girls employed in stores to wait on the saleswomen hope to develop into their successors, and the girls who nurse babies on the doorsteps are, after all, acquiring knowledge and dexterity that may fit them for the management of their own families a few years later.

Vocations and Avocations

The girls of the richer homes have not the same difficulties as their poorer sisters. They generally remain at school until a much later age, and subsequently have the joy and stimulus of college life, of foreign travel, of social engagements, or of philanthropic enterprise. Still, a residue remains even of girls of this class whose own inclinations, or whose family circumstances, lead to an aimless, purposeless existence, pro*ductive of much injury* to both body and mind, and only too likely to end in hopeless ennui and nervous troubles. It should be thoroughly understood that no matter what the girl's circumstances may be she ought always to have an abundance of employment. The ideas of obligation and of duty should not be discarded when school and college life cease. The well-to-do girl should be encouraged to take up some definite employment which would fill her life and provide her with interests and duties. Any other arrangement tends to make the time between leaving school or college and a possible marriage not only wasted time but also a seed-time during which a crop is sown of bad habits, laziness of body, and slackness of mind, that subsequently bear bitter fruit. It is quite time for us to recognize that unemployment and absence of duties is as great a disadvantage to the rich as it is to the poor; the sort of employment must necessarily differ, but the spirit in which it is to be done is the same.

One point that one would wish to emphasize with regard to all adolescents is that although occupation for the whole day is most desirable, hard work should occupy but a certain proportion of the waking hours. For an adolescent or indeed for any of us to attempt to work hard for twelve or fourteen hours out of the twenty-four is to store up trouble. It is not possible to lay down any hard and fast rule as to the length of hours of work, because the other factors in the problem vary so greatly. One person may be exhausted by four hours of intellectual effort whereas another is less fatigued by eight, and further the daily occupations vary greatly in the demand that they make on attention and on such qualities as reason, judgment, and power of initiation. Those who teach or learn such subjects as mathematics, or those who are engaged in such occupations as portrait-painting and the higher forms of musical effort, must necessarily take more out of themselves than those who are employed in feeding a machine, in nursing a baby, or in gardening operations.

The Final Aim of Education

The great problem before those who have the responsibility for the training of the young is that of preparing them to take their place in the world as fathers, mothers, and citizens, and among the fundamental duties connected with this responsibility must come the placing before the eyes of the young people high ideals, attractive examples, and the securing to them the means of adequate preparation. As a nation it seems to be with us at present as it was with the people of Israel in the days of Eli: "the word of the Lord was precious (or scarce) in those

days; there was no open vision." We seem to have come to a time of civilization in which there is much surface refinement and a widespread veneer of superficial knowledge, but in which there is little enthusiasm and in which the great aim and object of teaching and of training is but too little realized. In the endeavor to know a little of all things we seem to have lost the capacity for true and exhaustive knowledge of anything. It would appear as if the remedy for this most unsatisfactory state of things has to commence long before the years of adolescence, even while the child is yet in its cradle. The old-fashioned ideas of duty, obedience, and discipline must be once more household words and living entities before the race can enter on a period of regeneration. We want a poet with the logic of Browning, the sweetness of Longfellow, the faith of Whittier, and the force of Rudyard Kipling, to sing a song that would penetrate through indifference, sloth, and love of pleasure, and make of us the nation that we might be.

The Highest Ideal

Speaking specially with regard to girls, let us first remember that the highest earthly ideal for a woman is that she should be a good wife and a good mother. It is not necessary to say this in direct words to every small girl, but she ought to be so educated, so guided, as instinctively to realize that wifehood and motherhood is the flower and perfection of her being. This is the hope and ideal that should sanctify her lessons and sweeten the right and proper discipline of life. All learning, all handicraft, and all artistic training should take their place as a preparation to this end.

Each generation that comes on to the stage of life is the fruit of that which preceded it. It is the flower of the present national life and the seed of that which is to come. We ought to recognize that all educational aims and methods are really subordinate to this great end; if this were properly realized by adolescents it would be of the greatest service and help in their training.

The deep primal instinct of fatherhood and motherhood would help boys and girls more than anything else to seek earnestly and successfully for the highest attainable degree of perfection of their own bodies, their own minds, and their own souls. It is, however, impossible to aim at an ideal that is unseen and even unknown, and although the primal instinct exists in us all its fruition is greatly hindered by the way in which it is steadily ignored, and by the fact that any proclamation of its existence is considered indiscreet and even indelicate.

The Need of Right Teaching

How are children to develop a holy reverence for their own bodies unless they know of their wonderful destiny? If they do not recognize that God has confided to them in some measure His own creative function, how can they jealously guard against all that would injure their bodies and spoil their hopes for the exercise of this function? There is, even at the present time, a division of opinion as to when and in what manner children are to be made aware of their august destiny. We are indeed only now beginning to realize that ignorance is not necessarily innocence, and that knowledge of these matters may be sanctified and blessed.

It is certain that the conspiracy of silence which lasted so many years has brought forth nothing but evil. If a girl remains ignorant of physiological facts, the shock of the eternal realities of life that come to her on marriage is always pernicious and sometimes disastrous. If, on the other hand, such knowledge is obtained from servants and depraved playfellows, her purity of mind must be smirched and injured.

Even among those who hold that children ought to be instructed, there is a division of opinion as to when this instruction is to begin. Some say at puberty, others a few years later, perhaps on the eve of marriage, and yet others think that the knowledge will come with less shock, with less personal application, and therefore in a more natural and useful manner from the very beginning of conscious life. These last would argue—why put the facts of reproduction on a different footing from those of digestion and respiration? As facts in the physical life they hold a precisely similar position. Upon the due performance of bodily functions depends the welfare of the whole organism, and although reproduction, unlike the functions of respiration and digestion, is not essential to the life of the individual, it is essential to the life of the nation.

The Simple Truth, Simply Told

The facts of reproduction are best taught to little children by a perfectly simple recognition of the phenomena of life around them—the cat with her kittens, the bird with its fledglings, and still more the mother with her infant, are all common facts and beautiful types of motherhood. Instead of inventing silly and untrue stories as to the origin of the kitten and the fledgling, it is better and wiser to answer the child's question by a direct statement of fact, that God has given the power to His creatures to perpetuate them-

selves, that the gift of life is one of His good gifts bestowed in mercy on all His creatures.

The mother's share in this gift and duty can be observed by and simply explained to the child from its earliest years; it comes then with no shock, no sense of shame, but as a type of joy and gladness, an image of that holiest of all relations, the Eternal Mother and the Heavenly Child.

Somewhat later in life, probably immediately before puberty in boys and shortly after puberty in girls, the father's share in this mystery may naturally come up for explanation. The physiological facts connected with this are not so constantly in evidence before children, and therefore do not press for explanation in the same way as do those of motherhood, but the time comes soon in the school-boy's life when the special care of his own body has to be urged on him, and this knowledge ought to come protected by the sanction that unless he is faithful to his trust he cannot look to the reward of a happy home life with wife and children. In the case of the girl the question as to fatherhood is more likely to arise out of the reading of the Bible or other literature, or by her realization that at any rate in the case of human parenthood there is evidently the intermediation of a father. The details of this knowledge need not necessarily be pressed on the adolescent girl, but it is a positive cruelty to allow the young woman to marry without knowing the facts on which her happiness depends.

Another way in which the mystery of parenthood can be simply and comfortably taught is through the study of vegetable physiology. The fertilization of the ovules by pollen which falls directly from the anthers on to the stigma can be used as a representation of similar facts in animal physiology. It is very desirable, however, that this study of the vegetable should succeed and not precede that of the domestic animals in the teaching of boys and girls.

Knowledge the Child's Right

Viewed from this standpoint there is surely no difficulty to the parent in imparting to the child this necessary knowledge. We have to remember that children have to know the mysteries of life. They cannot live in the world without seeing the great drama constantly displayed to them in family life and in the lives of domesticated animals. They cannot read the literature of Greece and Rome, nay, they cannot study the Book of Books, without these facts being constantly brought to mind. A child's thirst for the interpretation of this knowledge is imperative and insatiable—not from prurience nor from evil-mindedness, but in obedience to a law of our nature, the child demands this knowledge—and will get it. It is for fathers and mothers to say whether these sublime and beautiful mysteries shall be lovingly and reverently unveiled by themselves or whether the child's mind shall be poisoned and all beauty and reverence destroyed by depraved school-fellows and vulgar companions.

In the hope of securing the purity, reverence and piety of our children, in the hope that they may grow up worthy of their high destiny, let us do what we may to keep their honor unsmirched, to preserve their innocence, and to lead them on from the unconscious goodness of childhood to the clear-eyed, fully conscious dignity of maturity, that our sons may grow up as young plants, and our daughters as the polished corners of the temple.

SEX-DISCIPLINE FOR BOYS IN THE HOME

BY

WILLIAM BYRON FORBUSH

The Need of Instruction

ENOUGH has been said as to the necessity of sex-instruction. Whatever be the differences of opinion of scholars as to the advisability of this sort of teaching in the schools, they are all united as to its necessity in the home. The best authorities tell us that what the child needs is not a single lecture covering all the branches of the subject, but information at different periods suited to the needs of each period.

Who Is the One to Give It?

This task cannot be done in the best way by means of books. Many books upon this subject are uninteresting. Some are shallow and void of information. Some tell too little to give the needed instruction, and others tell so much that they excite undesirable emotions. The best of such books should be used by parents. They give the information which the parent himself needs. It is wise, when the parent is timid, for him to

lend such a book to his son. He should either read it to him or see that the boy actually reads it, then help interpret it to him. Such books, when lent, should be taken back by the parent after they are used.

Physicians are not the best persons to perform this task. Some are too technical in their expressions; others are too cynical toward humanity; a few are loose livers. Some scare boys by their manner; others invariably suggest disease. Few of them are natural teachers.

Occasionally, where the physician is well known and the parent has had a previous conversation with the boy upon the matter, it may be well in later boyhood to allow the boy to go to the doctor "for the fullest information," so that he may feel that nothing has been concealed that he ought to know. Whenever the boy needs slight surgical attention, of course he should wait upon a physician in company with his father, and certain instruction may be appropriate at that consultation.

Teachers are not the best persons to do this work. They are not so well informed as physicians, and there is often a barrier between them and their pupils. The school-room, the atmosphere of which is that of curiosity, does not seem to give quite the right environment for this kind of instruction.

Ministers are not the best persons for this work. Through earnestness they are likely to scare children, and to moralize more than to instruct. Their attitude toward these matters, while generally wholesome, sometimes smacks of sentimentality or an unduly ascetic view of life.

Professional lecturers and so-called experts are not the best people to help boys. So many who study the subject of sex become morbid upon it that we may wisely distrust even the character of those who give themselves entirely to this kind of teaching. Public instruction must necessarily be vague and ill-adapted to the individual. Lectures on purity, which English boys call "smut jaws," are often followed by unwholesome conversation between boys, and may tend toward impurity rather than morality.

The parent, then, is the proper person to give the needful instruction. The methods by which the parent may discipline his son are these: First, by answering his questions; second, by always telling him the truth; third, by satisfying his legitimate curiosity at each stage of boyhood; fourth, by furnishing him a series of facts as he needs them, either by telling them to him or by reading them to him, as he may think better; fifth, by questioning him at times in order to discover if there is more that he ought to know; sixth, by keeping his confidence so that he may miss no knowledge nor inspiration that will be helpful to him; seventh, by defending him so far as possible against unnecessary temptation and error.

The Periods of Boyhood

There are three periods of boyhood, each of which has its own individual characteristics. These are, roughly speaking, the years before eight, the years between nine and fourteen, and the years after fifteen. So far as the need of information is concerned, they are two rather than three; that is, the first two periods, or the years before sex-nature awakens, are the years of general preparation, while the adolescent years are the years when the matter is a personal problem. Dr. Ira S. Wile names these periods as follows: the age of mythology, the age of chivalry, and the age of civic awakening. The boy in the first period needs facts; in the second period, a wholesome development of his emotions and imagination; and in the third, self-control. It is generally agreed that during the first period the boy should be guided by his mother, during the second, his mother and his father, and during the third by his father.

The Boy before Eight

The boy before eight needs two items of instruction: first, as to his personal toilet; second, as to the origins and renewal of life. Parents should be satisfied very early that the child's private parts are in a normal condition. Tightness of the foreskin is an indication for circumcision, an operation so harmless that many parents and some entire races have it performed soon after birth. The result is to keep the organ clean and unirritated, to lessen the temptation of self-handling, to reduce the frequency of seminal losses, and to temper the sensual nature.

The child should be shown early how to retract the foreskin and cleanse the parts at the bath, and told that they should not be handled for any unnecessary purpose. All children should, for reasons of health and comfort, sleep alone, also that they may not learn to meddle with each other. They should be told to treat with scorn and fury any one who suggests such an act. If a child eats simple and non-stimulating food, wears loose clothing, and is normal and clean, misuse of the private parts should not become troublesome during this period.

It is well to explain that some parts of the body are not exhibited because they are like the house-drains, not shameful but unsightly, or

occasion may be taken to show how men's clothing among savages was originally intended chiefly to protect these sensitive and important parts from injury, and so it has grown to be "our custom" to keep them out of sight. The child may also be told that whatever the parents may tell him about those organs is rather in the nature of a secret between themselves and him, here again not because the subject is shameful, as it is not, but just as we do not tell our neighbors about our acts of toilet, our prayers, or our family affairs.

Some explanation of the origins and renewal of life should be made to all children before they begin to go to school. The occasion would better be in answer to some inevitable question, stimulated perhaps by observation in the farmyard, or in the human family life, or by some attempt at revelation by a playmate. The best of all opportunities, apart from the child's own suggestion, is when a new baby is expected in the home or neighborhood.

As to the parents' manner in telling this story, one or two reassuring things may be said. Do not be self-conscious. Our manner should be matter-of-fact; earnest, but not flippant; above all, honest. We should be sure he is attentive, so that he really gets what we are giving him, that he is satisfied, so that he will remember, and that we keep his confidence, so that we may resume the subject when necessary. The parent who postpones the questions of his child for an indefinite period, promising that later "if he will come to him, he will answer," will find that the child will never come back. He will get his information another way.

Motherhood

There are two questions which a young child may ask during these early years. One is this: "Where did I come from?" or "How are babies born?" or some other query which leads to the mother's part in the renewal of life.

We may suppose that by this time most parents are agreed that the "stork story" and the "doctor story" are unnecessary. Even if any allegory is desirable, one much more beautiful and fitting may be drawn from the nest or the cradle than from the bird. Neither is it necessary to make the long explanation by way of the plant and animal world, although for the present the "farmyard method" and the "flower-garden method" may be useful as supports for the human story. True though it is that "all life comes from the egg," how much more simple it is to teach at once that all human life comes *from* parents. And why not tell little children that mothers are the life-bearers, and that the little child himself was carried in a nest in his mother's body close under her heart, and was born into the world, as all little ones are, through the gates of birth? Soon after the mother has given this fact, the father ought to take the child into his arms and tell the boy how long it was, and how hard and how perilous, for the dear mother, and that he owes her his best love always, since his life in this beautiful world was given by hers and at the risk of hers. After this, the universality of birth in the animal world may be instanced as it comes to the child's observation in the dog, the cat, and the rabbit. Yet there are differences which need always to be strongly held in calling attention to these analogies: the human life is immeasurably above that of any of the animals; human parents love before they mate, and they care for their children throughout their lifetime as none of the animals do.

Fatherhood

The other question which the young child may ask is as to the father's part in reproduction. It may be stimulated by observation of his pets or other animals. It may be merely an inquiry as to the purpose of his own sex-organs, of which he has been urged to take care. Whether the question is really asked or not, the truth should be told very early. It is much better to tell it when the child is innocent and will receive the information without sex-consciousness.

Since it has been found that the majority of boys by the age of ten have some idea, usually coarsened and garbled, of the father's share in reproduction, it is well that by that time each boy should be told by his own father what is the father's part in the renewal of life. The essential thing to tell is that, as the mother is the life-bearer, so the father is the life-giver. The child may be informed that, if he takes good care of himself and grows up strong and pure, some day he will have within his body, in the region already indicated, seeds of life. Tell him, too, that his outer tube, the penis, must carry those seeds of life into some mother-nest, of which he has been told, where, after they have been joined to tiny egg-cells of that mother, a little baby may come into being. The story, thus told, will impress any little child as a beautiful miracle-play. In all such explanation the scientific names of the parts may be mentioned, so that the child will not cling to the vulgar ones.

A boy gets no other notion of the use of the sex-organs from his companions or his other associations on the street than that it is primarily

for personal and sensual pleasure. From his father should come the thought that it is chiefly intended for handing down the life of the family and for the boy's own virile development as a future man in that family.

The Boy from Nine to Fourteen

During this period the problem of sex-discipline gradually changes. The child ceases to be monopolized by the home and is molded more by his school and his chums. Careful investigation shows that not more than one out of ten boys reaches the age of twelve or thirteen without a complete, although often unwholesome, knowledge of the facts connected with human reproduction. It would be strange if this were not true. When fairy-tales and mythology, the Bible and Shakespeare, the dictionary and the cyclopedia, posters and advertisements, poetry and art, and the conversation of children are full of these themes, it would be indeed a blockhead who would not investigate them, and a fool who would not acquire some measure of information. As soon as his sexual nature awakens, pictures, customs, dress and a world of coarse masculine ideas are at hand to stimulate it. The boy has come out of seclusion forever.

The father who thinks it safe to wait until his boy is about fourteen, and immediately facing his personal problem, is likely to find that his son regards it as a joke that anybody should be ignorant upon this vital theme.

The parents must accompany the child through his boyhood, endeavoring always to retain his confidence, to answer his questions, to emphasize unmistakably by their conversation and conduct the noblest personal ideals, and, above all, to try to live sympathetically near their child's level.

Self-Abuse

There are several problems in this period. The first concerns the development and possible misuse of the sex-organs. According to many physicians, these organs have another use than the reproductive one; if not abused, it is their work to pour a continuous stream of energy into the young life. "The testis," according to Dr. Winfield S. Hall, "produces two forms of secretion, the internal secretion and the external secretion; the internal secretion being absorbed, produces those male characteristics which we group together under virility, while the external secretion is used for procreation." Since there is nothing which every normal boy desires more earnestly than to be a virile, abounding type of man, the thought that he has the power to become such by conserving his own resources is one of the strongest helps to self-control.

This positive attitude is the best preventive of the most common vice of boyhood, the habit of handling the personal sex-organs. Concerning this, sane and reassuring words need to be spoken. Parents ought to know that the habit is practically universal, at least as an experiment, that it is practised with some frequency by the great majority of lads. It usually has its origin among uninstructed boys as an expression of curiosity concerning the function of these organs, and the first occasion is often the result of the accidental discovery that it is pleasurable. Sometimes it is learned by imitation, and therefore sleeping with other children, and unwatched familiarities, should be avoided. To endeavor to check it by corporal punishment is only to incite recourse to it later for comfort; and merely to scold a child about it is only to puzzle him. Fear may drive the lad to despair, or later to other forms of impurity.

Physicians to-day are not emphasizing the physical harm of this practice. They rather think of it as a nasty habit, a shameful kind of selfish indulgence, a kind of arrest, limiting to some extent the "nerve," the ambition, and the stamina of a growing boy. It appears to be common, not among the most vigorous, but among the weaker sort, which perhaps explains its prevalence among the feeble-minded. And refinement is not a barrier to it, since perhaps it is a disease of those who are softly nurtured, overfed and indulged. Its availability encourages its development and its secrecy prevents detection or rigorous prevention.

A number of methods of cure may be applied. An athletic ideal is almost a panacea, when accepted as eagerly as it usually is by a normal boy. To get a boy "good and tired" is to help make him literally good. Preoccupation, industriousness, the sense of responsibility, are self-preservative means. Thoughts of manliness, pride, ambition, must be encouraged. Instead of threatening the boy with fatal results of his misconduct—which will not happen—we should try to make him sense the joy of being clean. The best motive of all is self-control. Self-control of this function now is the only adequate guarantee of a lifetime of pure living.

The father, of course, must help. Let him hustle the boy merrily out of bed as soon as he wakes in the morning, show him how to enjoy a cold splash and rub, and keep him busy all day. In this way he will safely get over the two danger-points, the early morning, when there is a tendency to languor and sensual dreaming, and

the evening, when the boy who is not healthily sleepy is again subject to temptation. Let him not accuse his son of evil, but imply that he expects nothing but good of him, and whenever he instructs him, do so not in a superior way, but with the acknowledgment that the fight is one that he himself knows all about.

Seminal Emissions

The next thing, which does not need to be communicated until the very end of this period, is the fact of the naturalness of seminal emissions. This phenomenon of late boyhood is as startling to the uninstructed boy as is the first menstruation to the uninstructed girl, and is sometimes as great a shock and terror. If he can learn that these discharges are, if moderate in frequency, the sign of vigor rather than of weakness, he will be delivered from the hands of the quack and the scare-monger. They may be tempered in frequency by an active physical life, especially by walking and gymnastics, by the frequent use of cold water, by circumcision when necessary, and especially by the habit of pure thinking and wholesome reading.

Further Instruction

Next comes the problem of further sex-instruction. Actual immorality among boys of this age is unusual. When it occurs it is usually because of the advances of older, immoral girls.

Throughout this period it is impossible to say too much about the effect of the thoughts upon the life. Truly, out of the heart are the issues of life, and the Master was right when he placed sin in the lustful thought rather than in the act. The boy who thinks himself clean because his acts do not offend, but who indulges impure day-dreams, is not only weakening his stamina, but he is feeding a wild beast which some day he will not be able to tame.

As to further information concerning the facts of life, needs vary. In general, it is necessary to make some sort of review of the subject at times, to be sure that the child has retained clearly in mind the import of the main facts. We want to leave him no sex-worries. He should know chastely the main physical differences of the sexes, with their different functions in reproduction; he should be aware that there are unfortunate women who make a hire of their bodies and men who are so debased as to prostitute their own powers, by unclean approaches to women and even to boys; he should appreciate that his mother and sister are periodically in a condition which requires especially tender care, and that the reason his girl playmates sometimes break engagements with him, or seem otherwise perverse, is often due to the same cause. He should learn to ignore the advertisements of the quack, and to refuse books upon the subject, since his parents have access to better ones.

First Love

One more phenomenon of awakening manhood causes parental surprise and anxiety near the close of this period. Some boys meet the experience of first love at this apparently unseasonable era. Unless the girl be unusually precocious, ardent and conscienceless, the first impulse of affection to the boy is likely to be the purest emotion known to man. Lacking entirely the fever for possession, it worships from afar, in a dim, knightly devotion. The object of affection may be years older than the boy, or otherwise impossible; the moral elevation is the same. Ridicule, opposition, punishment were never less suitable, while sympathy, distraction, and the safety of numbers will almost always lead to a painless cure. Of course the parents will desire to know the fair inamorata, and will treat her as they do all the boy-friends, implying that the comradeship is of quite the same sort, and they will be watchful, believing that a boy needs a chaperon as well as a girl.

The Youth from Fifteen to Maturity

Grave problems present themselves during youth. One of these is that of immoral intercourse. The sexual impulse becomes in the lives of many young men so powerful that even ideals, prayers, and the influence of good fathers and mothers are hardly effective to stay the compulsion. No doubt the sex-hungers are stimulated by certain social facts, our high-keyed amusements, the relaxation of college and fraternal festivals, animal-dances, the solitude and freedom of the first departure from home, the necessary postponement of marriage, the presence in the world of weak and foolish young women who are tempters, and the coarse masculine ideals that are still current. Within the young man, assisting his erotic tendency, is the instinct to dare, to experiment and find out, to chase and make love.

At this period, our great task is, as President Eliot has said, "to modify toward purity and chivalrous gentleness the animal instincts of man." To attempt to do this entirely by spiritual means is like trying to shovel earth with a silk spade. To do it entirely by material means is like trying to shovel air with an iron spade. Adolescence is not by any means entirely a spiritual period. It is, according to testimony of

all psychologists, irresponsible, incoherent, restless, and independent.

Good Motives

Every possible motive must now be brought to bear to upstay the will and to keep the life stainless. With one the personal motives will avail: self-respect; the *noblesse oblige* that will not hunt down a woman or hurt a child; refinement and disgust; what Theodore Roosevelt calls "truculent integrity"; even the fear of personal injury. With another the social passion will be more effective: loyalty to clan; reverence of motherhood in the person of his own mother and in those of all mothers; chivalry to sisterhood in the person of his own and in the unwillingness to make a thrall of the sister of another; the sense of responsibility to society and the unwillingness to become a social criminal; the sense of outrage at contaminating the springs of birth; fidelity to the wife and children that are to be. With still another the religious motive will triumph: the manly fear of God; horror at sin; a passion for the pure kingdom of heaven on earth.

Fear alone may drive a man to secret vice. The self-regarding motive may divert his selfishness to another channel. Yet, as has been bluntly said, it is better to be scared than syphilitic. And let us now call upon all the people who can help. The physician may broaden the scope of information; the athlete and the camp-leader may be strong examples of the strenuous life; good women are always helpful; busy companionship with truly strong men makes for spiritual athleticism. The Church is never more helpful, with its unworldly passion for a better age, its brotherhood to children and younger boys—even its confessional and its periods of devotion.

Right Attitudes

During boyhood, when sex-matters were simply factors of intellectual curiosity, the passive acceptance of communicated facts and ideals was enough, but now, when they involve in every youth distinct, hard-won personal choice, the individual attitude is everything. No wiser words upon this have been spoken than these by Maurice A. Bigelow:

"Unless we can devise some way to counteract the prevailing narrow, vulgar, disrespectful, and irreverent attitude towards all aspects of sex and reproduction; unless we can make people see sexual processes in all their normal aspects as noble, beautiful, and splendid steps in the great plan of nature; unless we can substitute a philosophical and esthetic view of sex-relationship for the time-worn interpretation of everything sexual as inherently vulgar, base, ignoble, and demanding asceticism for those who would reach the highest spiritual development; unless we can begin to make these changes in the prevailing attitude towards sex and reproduction, we cannot make any decided advance in the attempt to help solve sex-problems by special instruction. First of all, sex-education must work for a purified and dignified attitude which sees vulgarity and impurity only when the functions of sex have been voluntarily and knowingly misused and thereby debased. If sex-education succeeds in giving young people this enlightened attitude, there will be little difficulty in solving most of the ethical and hygienic problems of sex."

In a fraternity of boys, several tens of thousands in number, ranging from thirteen to eighteen years of age, called the Knights of King Arthur, those who attain the second degree, that of esquire, are bound together with chaste ideals and living as one of their watchwords. It has been a matter of general observation, running now over a score of years, that those who thoughtfully take this obligation together with their companions absorb it as an integral part of their young characters and carry it on as a living principle into manhood. It is also a well-known fact that the surest way to commit a young man to pure living is to persuade him to act, in some capacity, as elder brother to a company of younger ones. The Master's own motto, "For their sakes I consecrate myself," then becomes one of the cardinal doctrines of such a young man's life, and acts as a guiding motive long after the special connection has ceased.

Final Warnings

Of the matter for instruction now not much need be said. The newness is not so much in the facts as in the emphasis. Copulation is now, in the imagination of many chaste but inexperienced youths, dreamed of as a sensual heaven. Because of the mystery with which it has been surrounded, the generative act is thought of by many boys as, under whatever circumstances performed, the acme of human felicity. It is necessary to let them know that here, as in all other moral issues, the body is not all. The sorrows and wages of sin are nowhere more manifest than here. To harlotry belong fear, self-loathing, self-indulgence, quarrelsomeness, contempt, hatred, treachery, mercenary conduct, indulgence in drink, criminal impulses and despair. To marriage belong love, esteem, self-respect, forgiveness, courage, social obligations, and sacrifice.

A fair, open-eyed knowledge of the extent and the virulence of the sexual plagues is essential. Gonorrhœa, formerly considered "no worse than a cold," is now regarded as a malady frequently characterized by complications, commonly explanatory of sterility, apt to appear many years after it was contracted, and thus likely to affect one's innocent wife and children. Syphilis infects the whole body through the blood, and is both communicable and hereditary. The youth who places himself in a situation where he may contract either of these diseases is risking his manhood and gambling with other lives. Bigelow speaks of "the sexual actions of the individual who may start a long train of human disaster that may visit the children unto even later than the third and fourth generations."

The removal of the veil of romance from prostitution should be complete. The daughter of shame should be recognized as in no sense alluring, but as in the majority of cases of inferior mentality, usually a virulent center of an infection whose visitations upon the unborn are the greatest of tragedies, and generally weak, ignorant, ill-treated, and defenseless. Those who engage in clandestine sin are even more dangerous because more careless and ignorant, and generally of a humble social class, whom no high-minded youth can wish to rob of their one life-treasure. The young man should also be told that there are no precautions which will guarantee immunity either to his victim or to himself as to the results of the act which constitutes his moral downfall.

There are three lies that a father ought to nail as promptly as possible, which are told and believed as an excuse for sensual indulgence. One is, that such indulgence is a necessity to virility. Give your son "The Physician's Answer," a small leaflet compiled by Dr. M. S. Exner, containing the names of over three hundred of America's leading physicians, who testify that there is not the slightest ground for any such doctrine; and remind him that the two classes that most feel "necessity" are imbeciles and degenerates. Another lie is, that at least one such indulgence is necessary to prove that one is capable of his marital duties. This, of course, is utter nonsense, and every young man who is vigorous enough to have occasional seminal losses knows that it is nonsense. The third lie is, that since indulgence is natural and universal among the animals, it is a right and privilege that belongs to the higher human animals. This doctrine, perhaps, is the outgrowth of too much emphasis upon biological analogies. Even biologically the argument rather points the other way, for man is "the only animal who makes love all the year round," who copulates for any purpose other than reproduction, or who artificially stimulates his desires. But it is still more important to add, that he is the only one who has a spiritual nature potent to restrain, guide, and exalt his physical nature.

There is always need of specific instructions concerning the ideals with which young men should approach marriage. If the ideal of fatherhood, which we insisted should be instilled into a child long before he has the capacity of parenthood, and accompanied by complete information, can be carried all the way along, and the virtue of youth focused in the family relation, even the simplest instruction will be effective, because it will be utilized by one who has the divine conception of marriage.

8. The Exceptional Child

DANGER-SIGNALS IN YOUNG CHILDREN

BY

MAXIMILIAN P. E. GROSZMANN

It is one of the wholesome results of child study that teachers and parents are becoming aware of the necessity of observing symptoms of exceptional development in their children so as to adjust educational measures to individual conditions. We are gradually, although still very slowly, outgrowing the conception of a child as a being that may be handled and molded at will.

Mental and Moral Results of Physical Conditions

We are beginning to understand that manifestations which may be displeasing to us are not necessarily expressions of a child's evil genius. The entire idea of discipline and punishment is undergoing a change. We are learning that much naughtiness of children may be merely danger-signals indicating physical disturbance somewhere. Apparent disinclination to obey may be due to imperfect hearing; aversion to reading and writing, to imperfect vision. Ugliness and irritability may be caused by astigmatism, which in its turn produces eye-strain and persistent headaches. Laziness may be a symptom of anemia or neurasthenia, or it may be caused by malnutrition, over-exertion, lack of sleep, or inadequate ventilation in the sleeping-chamber. Fretfulness may have its cause in a great number of various conditions, notably indigestion.

Educators are oftentimes inclined to feel very much vexed when a child makes grimaces, is inclined to giggle and babble, and to disturb the artificial discipline of the school-room by whispering. And yet these manifestations, as well as others, like sniffling, coughing, restlessness, and inattention, may be, and almost always are, symptoms of nervous disease. They may be enumerated among the so-called habit-tics or habit-spasms, like twitching, shrugging, shuffling, grinning, sighing, yawning, echolalia (the repetition of words spoken by another, as for instance repeating a question before answering it), uttering curious sounds, such as chirping, etc. Again, momentary inattention and absent-mindedness may be due to a mild form of *petit mal*, *i. e.*, epilepsy. Sudden attacks of excitement, outbreaks of temper, destructiveness, hitting other children, and the like, suggest the presence of psychic epilepsy. Then there are the manifold movements characteristic of chorea; and while true hysteria is a disease which does not develop before the adolescent age, there are quite a number of conditions in children which may be counted among hysterical symptoms. An emotional temperament is one of them, and the instability of will and irresponsibility, another. These symptoms are very often found in young girls who seem to be predestined to develop true hysteria unless preventive measures are taken at the right time.

It has been observed by many that an exaggerated imagination and selfishness, or rather self-centeredness, go with these symptoms; and that deviations from the truth, and often surprising fabrications, are characteristic of this condition. Children's lies are a chapter in themselves. Books have been written on the child as a witness, showing how unreliable are the statements of children, even of those who are usually considered truthful. Stubbornness and disobedience, qualities which are usually judged in the sense of disciplinary conditions, may reveal themselves to the careful observer as danger-signals indicating disease of some kind.

A New Requisite for Parenthood

For the sake of completeness of statement it is necessary to add that the conduct of children exhibits, in too many cases, conditions which are danger-signals not so much in the development of the child himself as in the manner of his education. The wisdom and judgment of the educator are in question when all is told. Very few of us have as yet a clear knowledge of the physical and psychical life of the child, and a faulty reaction on the part of the child may simply mean that we have handled him incorrectly.

Parents are, as a rule, sadly deficient in the wisdom and training required for the education

of their children. I say this in spite of the fact that we have now mothers' clubs in all cities of this broad land; for mothers come together in this way only after they have made their fundamental mistakes in regard to their own children. And fathers' clubs there are none. What is needed is to put false modesty aside and to consider no man or woman fit to marry who cannot give evidence of a training in parental functions. There are laws which prevent persons from marrying who are physically unfit. The next step is to prevent those who are educationally unfit.

Symptoms and Causes

To make a more detailed study of danger-signals, we must first develop the observational attitude of the diagnostician, and train ourselves to consider as a symptom everything which we cannot readily explain. And for every symptom we must train ourselves to look for a cause. Proper observation implies a careful distinction between the facts observed and the explanation we may give them. It is a very common error to substitute our interpretation of a fact for the fact itself, and thus records of children are often vitiated. And only one who can inspire a child with confidence, and put him absolutely at his ease, will gather reliable data.

The list of symptoms enumerated before will put many parents and teachers on their guard and point the way toward a better understanding of a child's real condition. But some more specific suggestions may be made.

A normal type may be conceived as representing all functions in proper poise, all potentials of complete personality being present and unimpaired in growth and development. On this basis, we may say that any perversion of function which shows a tendency to persist is a danger-signal, be it in the province of the physical or the mental life. Occasional indigestion, an isolated error of judgment, or outbreak of anger, or something like that means nothing; but as soon as any of these perversions become persistent, they will destroy the equilibrium of the personality, and must be studied as to cause and relief.

Poise is established by having the different aspects of human personality well-related. Human life is determined by principles of growth and development: growth as to size and weight, and development as to organization, differentiation, and function. There is first the size and weight of the body as a whole; then there is the evolution of the bony skeleton, of the muscles and organs, of the central and peripheral nervous system, not to forget the so-called sympathetic system, which regulates the functions of the viscera. Upon the growth and development of the nervous system depends the development of the functions of the intellect and will. Abnormalities of growth and development are distinct danger-signals.

Variations of Age and Development

In determining growth-periods there has recently been made the very helpful distinction between the chronological, anatomical, physiological, and psychological age of children. A boy of twelve in years is not necessarily a boy of twelve in development. Even if his anatomical growth be normal for his age, his physiological function or his psychological evolution may lag behind, so that he is actually only nine or ten years old. Or it may be the other way: he may be mentally normal or even precocious, and backward in weight and size. Any such discrepancy will cause a tension fraught with danger.

Our first care must be therefore to discover whether or not the anatomical structure and the physiological function in a child correspond to the age-standard. This will imply body-measurements and a number of tests and observations, some of which may be made in the home and in the school-room, while others require the coöperation of a physician. Child-study, it will be remembered, implies the strictest coöperation of parent, educator and physician.

In the matter of body-measurements, it is more important that the figures for height and weight should correspond than that a child be average in these measurements. In other words, a child may represent a smaller (or larger) type without danger to his development. But if he should weigh less than the average boy of his age, and his height be average or even above the average, or vice-versa, there is reason to investigate. Excessive or distinctly stunted growth are of course also abnormal. X-ray pictures of the developmental state of the small bones of the wrist, according to the method of Prof. Thomas M. Rotch, promise at this writing to become a scientific test for the anatomic age.

Further observation can be made in the various provinces of physiological functions. Facts of respiration and heart action, of appetite and of digestion, of headaches and dizziness, of muscular strength and grip, enter into this group of observations. It has been found, for instance, that the grip of the hand is a good index of intellectual development. Feeble-minded children, even those who exhibit much muscular strength under excitement, have a much lower grip figure

than normal children. The element of control enters here, and it is seen that some of these tests, which appear to be simply physical, have a psychic element.

Danger-Signals Usually Ignored

Frequent urination is an important symptom. It means either a distinct disease, or lack of volitional control, in other words a psychic defect. It suggests itself therefore that regular examinations of the urine of children be made for disease of kidneys, diabetes insipidus, intestinal intoxication, etc. There might also be examination of the blood for anemia, leukemia, parasites, *i.e.*, malaria, inflammatory states, etc.; also of the feces, for ability to digest various foods, intestinal parasites, etc.

The so-called growing pains in children are a rather suspicious element. They are often rheumatic in nature and require special attention. Rheumatism of childhood is dangerous for the reason of its insidious onset and never very active acute manifestations.

It might seem needless to say that any weakness of the special senses must be considered a danger-signal. Yet even defects of vision and hearing are often overlooked, and what is caused by inability to see and hear distinctly is ascribed to inattention and unwillingness. The acuteness of these two most important senses should be determined by the ordinary tests which are so simple that they can be employed anywhere. As has been said before, eye-strain is very frequently accompanied by headaches; chronic headache is therefore a danger-signal. The other special senses—taste, smell, and touch—not to speak of the muscular sense, rarely receive the attention they deserve. Yet we often find curious defects which may be considered as indicative of incomplete potentials and consequently of incomplete sensation. If we remember that under certain circumstances we may have to fall back upon one or more of these neglected senses, as in the case of Helen Keller, we may well be reminded of their importance. Speaking of sense-tests, it must not be omitted to state that certain illusions of sense are characteristic of the normal mind, and their absence consequently is an indication of abnormality. Let us be reminded of the various optical illusions, and of the well-known weight tests. There are, however, illusions, and, further, what have been called hallucinations, which are distinctly pathological. They may be observed even in young children.

Defective teeth are invariably a danger-signal. They may prove the existence of various functional diseases, hereditary or acquired, which prevent their proper formation and growth; or they may point to malnutrition and other temporary causes. In every instance, defective teeth interfere with the proper mastication and digestion of food; with the protection of the nasal-pharyngeal cavity; and with proper articulation.

The Right or the Left Hand

It has often been suggested that left-handedness is a danger-signal. It at least certainly indicates a deviation from typical conditions. Right-handedness is a very ancient characteristic of the human race and even primitive peoples are practically right-handed. Left-handedness is therefore not to be considered in the light of a primitive trait. As a matter of fact, left-handed individuals are found among the very intelligent and skilful; left-handedness is, then, not in itself a danger-signal unless it is coupled with other defects. It has been shown that the usual right-handedness may have one cause in the arrangement of the blood supply from the heart, which favors the right arm; left-handedness would, therefore, mean a reversal of this arrangement.

Another cause of the right-handedness of a great majority of men, however, is the stronger development of the left hemisphere of the brain. When, therefore, left-handedness is connected with speech-defects, as it often is, it would reinforce a diagnosis of defective central condition; for speech-defects, unless caused by anatomical defects in the organs of speech, can be explained only by under-development or lesion in the speech-centers of the left hemisphere. Speech defects are most pronouncedly danger-signals.

Physical and Psychic Relations

Here we come to the large number of danger-signals in the development of the nervous system. And this is at the same time the province of psychological disorders. It must, however, again be stated that there is a constant interaction between bodily and psychic conditions, and that it is impossible to separate absolutely the psychical from the physical. Bodily symptoms will indicate psychic defects, and psychic symptoms will indicate disturbance of physiologic functions. Some of the danger-signals in this province are changes in temperament (crying or laughing readily) and unwarranted attacks of temper; rapid fatiguing and disinclination for effort; drowsiness; excitability; insomnia. Of the habit-spasms I have already spoken. Then there are defects of memory and judgment, as well as lack of determination and decision. A mechanical memory alone is not a sign of intelligence, and is

found in remarkable development even among imbeciles. Precocity is another sign of eventual nervous strain and derangement.

Some very complete measuring scales for intelligence have been recently suggested by such men as Dr. Sante de Sanctis, of the University of Rome, Italy, and the famous French psychologist, Dr. Alfred Binet. They combine motor, sense, and intellect tests, so graded that we may determine the psychological age of a child by applying them systematically. As they have been tried with a great many children they may be considered fit to give truthful results. If, for instance, a child of nine years cannot respond properly to all the tests suggested for children of this age, but only to those prescribed for children of eight or even seven, we have a grave danger-signal in the matter of intellectual development.

In the sphere of will we must consider signs of weakness and indecision, of wavering and changeability; and any perversion of will and moral defects, like persistent lying and stealing, are plain indications of pathological development.

A complete system of observations and tests would embrace all the elements touched upon in this paper. Experiments along these lines have already been made in certain school systems, and in psychological laboratories and clinics. But the number of children so tested is small and most of them had already been found distinctly deficient.

Importance of Family Records

To make the status of the child still more evident, it will be necessary to include data from the earliest history of the child; and as much of the family history as can be ascertained. Only a complete tabulation of all these data will show in their perspective all the danger-signals which we ought to know about, so that we may neither underestimate nor overestimate. It is evident that any single fact may mean little or nothing unless it is taken in connection with other facts. And a consensus of various observers will eliminate the element of personal error or emotional bias.

The Science of Parenthood

Although I may say that I have proved its feasibility to a large extent, in my own practical experience, a complete system such as it has been my privilege to suggest may not be very readily introduced anywhere. Nevertheless, it is to be hoped that these suggestions will open the eyes of many teachers and parents to what should be observed, and for what the parent and educator must be on the lookout. We may hope for a more universal realization when the time comes that the family physician will be the hygienic adviser of parents, rather than the unwillingly called-in healer of diseases; and when every school will be a pedagogical clinic with the cooperation of the medical, psychological, and pedagogical expert. I hope that my suggestions will at least affect the disciplinary attitude of educators, so that teachers and parents will learn to consider themselves students of child-nature and of the individual children under their care, rather than their tamers and drill-masters. And the time may come when each child will be as carefully observed as the breeder of horses or chickens observes his brood; when there will be a science of education, a science of parenthood, a science of teaching; when it will not be considered stupendous and preposterous to give each child such minute care and study as will establish his full status.

Some day the beautiful words of Froebel: *Lasst uns mit unseren Kindern leben!* (Let us live with our children!) will become a reality, and we shall learn to appreciate the full significance of the ancient Roman proverb: *Principiis obsta!* (Deal sternly with the beginnings!)

PRINCIPLES OF MENTAL HYGIENE APPLIED TO THE MANAGEMENT OF CHILDREN PREDISPOSED TO NERVOUSNESS

BY

DR. LEWELLYS F. BARKER

WHETHER a person becomes nervous or not depends upon two great factors: (*a*) the constitution he inherits from his parents, and through them from his ancestors generally; (*b*) the influences to which his body, especially his nervous system, is exposed during life, and particularly during childhood. There will always be differences of opinion among serious students of the subject as to the relative importance of these two factors; some assume that heredity or nature is the all-important factor; others maintain that this is relatively insignificant and that environment or nurture accounts for everything; both views are one sided. Both nature and nurture are of fundamental importance and only by considering the two aspects of the subject fairly can sound ideas ever be arrived at.

Heredity and environment overlap in one period of life; during early childhood the individual is usually under the educational influence of his parents and exposed to their example. Doubtless much that is sometimes attributed to direct inheritance is really due to the influence after birth, of imitation of the parents. Where the heredity is notoriously bad it might be well, as Hermann Oppenheim suggests, to protect children who have the ill fortune to be born under such conditions from the dangers of psychic infection in the parental environment; such children taken away from home and placed under more favorable conditions would have a better chance of counteracting the faults of inheritance.

In families in which nervous states prevail, it is a matter of great interest to know in how far the nervous tendency can be overcome by educational means, and especially to learn what to avoid, because of its likelihood to injure the nervous system. Even in families in which no nervous taints exist in the parents or near relatives the children sometimes become nervous through faulty education, and there is a growing desire on the part of well-informed people to make sure that the means of education they provide for their children shall be such that the nervous system will be protected and strengthened, rather than exposed to over-strain and injury.

Nutrition as a Factor

One fact which has become ever clearer as medical knowledge has advanced concerns the nutrition of the child. Faulty feeding in infancy and early childhood may lead to such impoverishment of the tissues and such stunting of growth that the ill-effects can never be recovered from in later life. A considerable proportion of the intellectual and normal inferiorities among our people is fairly attributable to imperfect nutrition at this early age. Fortunately the public is now being so thoroughly educated to the importance of breast-feeding for infants and of liberal and suitable diet during the early years of life, by family physicians and also through the excellent little manuals of Dr. L. Emmett Holt, Dr. Louis Starr, Dr. J. P. Crozer Griffith, and others, on the care and feeding of children that it is not necessary to dwell at length upon the subject. Plenty of good simple food, including milk, meat, vegetables, and fruit, with avoidance of condiments, coffee, tea, and alcohol, is approved by all authorities.

Many parents make the mistake of allowing the caprice of the child to influence its diet. We now know the foods that are suitable for children, and the children should be provided with them in suitable amounts and should be required to eat of them, largely independent of choice. The child that learns to eat and digest all wholesome foods, and is not permitted to cultivate little food antipathies, makes a good start and avoids one of the worst pitfalls of life with which medical men are familiar, namely, a finical anxiety concerning the effects of various foods, all too likely to develop into a hypochondriacal state.

Bodily Hardening, Out-of-Door Life, and Exercise

There is a greater recognition now than formerly, also, of the fact that children should not be too tenderly brought up—that a certain

amount of judicious hardening of the body is desirable. While faddists and extremists in this direction fall into grievous errors, making their children go barefoot and bare-legged in the snow and compelling the feeble, non-reacting child to take plunges in ice-cold water, a still greater mistake is made by those who over-protect their children, and fail to accustom their bodies early to cool baths and to exercise in all sorts of weather.

The child who is brought up in such a way that he is very sensitive to slight changes in temperature is bound to suffer from it sooner or later, and everyone is familiar with those who grumble at the weather. If children be suitably dressed, and are early accustomed to taking a cool bath in the morning and to walks out-of-doors every day, rain or shine, cold or warm, their skin and nervous system quickly acquire a tolerance for variations in temperature most desirable for health and for the feeling of well-being.

An out-of-door life for children also leads them unconsciously to exercise their muscles more than is possible for the child who stays indoors. Not only physicians, but laymen from the old Greek times to the present, have been impressed with the importance of bodily exercise and harmonious muscular development for the welfare of the mind and of the nervous system. If we wish our children to be strong, energetic, and courageous; if we desire to insure them against the nervous ills which follow in the wake of debility, inertia, and timidity, we must see to it that all the muscles of their bodies are systematically and regularly exercised. For this purpose the plays of children are very important and the only child, deprived of the companionship of brothers and sisters, unless pains are taken to supply other playmates for him, is much to be pitied. Besides play, walking, running, rowing, riding, swimming, paddling, and sailing are all desirable forms of bodily exercise. In cities, and especially during the school year, systematic gymnastic exercises, callisthenics, have to be resorted to, and where no suitable gymnastic exercises can be obtained, parents will do well to teach older children some forms of exercises to be taken in the early morning. One of the best of the various systems worked out is that of a Dane, one J. P. Müller, who in his little book "My System" outlines a series of exercises which anyone may carry out in his own room without apparatus. These exercises are physiologically well-devised and I can recommend them heartily, not only for older children but also for both men and women who have to compress the exercises of the day into a very short period. The exercises recommended in this country by Luther Halsey Gulick, Robert Tait McKenzie, and others may also be mentioned. I would call attention also to the works of Fernand Lagrange.

An anxious mother will often ask to have her nervous child excused from regular exercises at school. This is usually a mistake, for nervous children even more than normal children require systematic muscular exercises. It should, of course, be properly regulated, and where there is any doubt as to the reliability of the supervision of such work at a school gymnasium, definite instructions should be obtained from the family physician as to the character and amount of exercises to be undertaken.

While emphasis is thus laid upon suitable bodily exercise for children predisposed to nervousness, a warning should be sounded against excesses in sports like tennis, foot-ball, basket-ball and other games in which there is opportunity for competition or rivalry. Over-ambition in these directions is often most harmful both to the body and to the mind of the child and should be especially avoided when there is any neuropathic taint.

The Benefit of "Psychic Hardening"

In addition to the hardening of the body, the education of the child should include measures which increase his resistance to pain and discomforts of various sorts. Every child, therefore, should undergo a gradual process of "psychic hardening" and be taught to bear with equanimity the pain and discomfort to which everyone sooner or later cannot help but be exposed. What I have said about clothing, cold baths, walking in all weather and at all temperatures, play and exercise in the open air, has a bearing on this point, for a child who has formed good habits in these various directions will have learned many lessons in the steeling of his mind to bear pain and to ignore small discomforts.

Physicians who work among nervous cases realize how often the child who has been too much protected from pain becomes the victim of nervous break-down later in life. I have seen many a woman who could bear great sorrow or suffer without flinching the pain of childbirth who still had no tolerance for the little ills of life. In such cases it is the idea rather than the sensation from which the patient suffers, and such abnormal ideas most frequently arise in those who have not learned in childhood to bear pain well or to adjust themselves without complaint to the disagreeable sensations and experiences essential to a normal bringing up.

The boy who learns to tumble in a gymnasium, to stand the pain of boxing and fencing and wrestling and to keep his temper while engaging in these exercises, will have subjected himself to a training which cannot help but stand him in good stead later on in life. One reason why women are more prone in later life to nervousness than men may lie in the lessened opportunity which girls have for bodily and psychic hardening in the games which they play and the life which they lead as children. Particular care should be taken with young girls who show any tendency to nervousness to see to it that not too much concession is made to their likes and dislikes. Nothing can be more harmful to them than the gratification of caprice. Especially when a child shows a tendency to be nauseated by certain smells and tastes and to complain of noises or of sensitiveness to bright light, the family physician should be consulted and, provided no actual disease of the sense organs or brain is responsible, the process of psychic hardening should at once be begun.

Keeping an Infant in a Normal Routine

If children can be brought to behave normally in the presence of disagreeable feeling-tones, the task of educating them to control themselves in circumstances that tend to arouse the stronger feelings, emotions, and passions will be made much easier. Parents and nurses are too little aware of the dangers of allowing the emotions or passions to go unbridled. The problem should be recognized and attempts at the beginning of its solution should be made in early infancy. If an infant be kept in a normal routine, despite any emotional outbreak which it may manifest, an excellent start in the training of the emotions will have been made. If a child learns that, by crying or by an exhibition of temper, it can gain the thing which it thinks desirable, otherwise unattainable, a very bad start will have been made. Children should early be given to understand that they must control themselves before their desires will be gratified. How often has an indulgent mother given a child something it has asked for, in order to stop its crying and to avoid a scene! It is hard to imagine anything, in the circumstances, worse for the child. If, instead, the mother had ignored the temper and told the child that it must say "please" and must wait a few moments after its temper has been controlled and the request has been made before the desire will be gratified, it would have been quickly possible to convince the child that it can get things by controlling itself rather than by emotional explosions. The substitution of self-mastery for emotional outbreaks is easy when begun early, but very difficult if begun late in life.

Another mental attitude that bears watching is the craving of the child for sympathy. Parents are really unkind in yielding too much to such a craving. True kindness will teach the child to rely more upon self-help.

Injurious Effects of Vacillation

Still another manifestation, common in children and fostered too often by the example of the parents, is vacillation. In one form of functional nervous disease indecision is a most prominent symptom. Parents should see to it that children are not exposed to a pernicious example in this regard. Although there are some children of the "hair-trigger" type who have to be taught deliberation in the making of decisions, there are more who have a tendency to doubt and indecision, and who should be taught that it is better, after due consideration, to make a decision, even though it be wrong, and to stick to it, than to remain undecided.

The extent to which the fallacy of indecision may be carried is well manifested by some of the psychasthenic patients who apply to physicians for aid. Their indecision is often shown by the way in which they make an appointment with the physician, making and breaking it several times or changing the hour repeatedly before finally appearing in his office. One of these patients told me that it sometimes took him hours to decide what clothes to put on for the day. Fortunately such pathological cases are uncommon, but there is every gradation, from the milder symptoms of vacillation to the outspoken and distressing indecision of the confirmed psychasthenic. The old motto, "When in doubt, act," should be kept in mind by parents who note a tendency to indecision in a child.

Teaching Nervous Children how to Meet the Daily Friction of Life

The control of the stronger passions is for some easier than the mastery of ordinary irritation, and nervous children should, both by example and by precept, be taught how to stifle irritability whenever it arises. So few adults have learned how to meet the daily friction that there would seem but little chance as yet for the nervous child constantly exposed to a bad example. As an observant writer has said, "An important feature of the art of living consists in keeping the peace, the whole peace, and nothing but the peace with those with whom one is thrown."

Self-Understanding and Understanding of Others—Arnold Bennett Quoted

If parents are prone, in their daily lives and especially within hearing of children, to blame the people who surround them or the people about whom they talk, they may often, quite unconsciously, sow the seeds of malevolence in young minds. Just as cheerfulness and kindliness are contagious, so, unfortunately, are moroseness, acerbity, churlishness, and ill-will, and the latter are mental states that are most harmful to the nervous system. It is entirely possible, with long training, practically to banish anger, worry, irritability, and uncharitableness from one's life. You will be impressed with a passage in Arnold Bennett's book, "The Human Machine," which deals with the matter of blaming, of judging others, and emitting verdicts upon them. You may not agree with him but he will make you think, at least, when he says: "All blame, uttered or unexpressed, is wrong. I do not blame myself. I can explain myself to myself. I can invariably explain myself. If I forged a friend's name on a cheque I should explain the affair quite satisfactorily to myself. And instead of blaming myself I should sympathize with myself for having been driven into such an excessively awkward corner. Let me examine honestly my mental processes, and I must admit that my attitude towards others is entirely different from my attitude towards myself. I must admit that in the seclusion of my mind, though I say not a word, I am constantly blaming others becaus. I am not happy. Whenever I bump up against an opposing personality and my smooth progress is impeded, I secretly blame the opposer. I act as though I had shouted to the world: 'Clear out of the way, everyone, for I am coming!' Everyone does not clear out of the way. I did not really expect everyone to clear out of the way. But I act, within, as though I had so expected. I blame. Hence kindliness, hence cheerfulness, is rendered vastly more difficult for me.

"What I ought to do is this: I ought to reflect again and again, and yet again, that the beings among whom I have to steer, the living environment out of which I have to manufacture my happiness, are just as inevitable in the scheme of evolution as I am myself; have just as much right to be themselves as I have to be myself; are precisely my equals in the face of Nature; are capable of being explained as I am capable of being explained; are entitled to the same latitude as I am entitled to, and are no more responsible for their composition and their environment than I for mine. I ought to reflect again and again, and yet again, that they all deserve from me as much sympathy as I give to myself. Why not? Having thus reflected in a general manner, I ought to take one by one the individuals with whom I am brought into frequent contact, and seek, by a deliberate effort of the imagination and the reason, to understand them, to understand why they act thus and thus, what their difficulties are, what their *explanation* is, and how friction can be avoided. So I ought to reflect, morning after morning, until my brain is saturated with the cases of these individuals. Here is a course of discipline. If I follow it I shall gradually lose the preposterous habit of blaming, and I shall have laid the foundations of that quiet, unshakable self-possession which is the indispensable preliminary of conduct according to reason, of thorough efficiency in the machine of happiness."

Learning the Difficult Lesson of Emotional Control

The growing child will nearly always find himself confronted by a sufficient number of disagreeable excitations to give him opportunity for the cultivation of emotional control. It is not desirable that life should be arranged otherwise for him; it would be far from advantageous to him to be protected from everything tending to stir his feelings and emotions. Attempts to follow the founder of Buddhism in the idea of educating youth by suppressing desire, and keeping the individual from the sight of suffering, care, or sorrow, would lead to a race of weaklings insufficient for the struggle of life. Far better, as George T. Ziehen and Hermann Oppenheim recommend, purposely to expose the neuropathic child occasionally to opportunity for slight emotional outbreak in order that he may by a sort of "gymnastic" of the emotions gradually learn to be master of himself.

The sensitive nervous system, if over-protected in the early years, suffers keenly when later on the principle of protection has, perforce, to give way to the principle of exertion. A lady of great refinement, who, owing to an illness which necessitated hospital treatment, was unpreparedly made aware of the world-pain of which she had previously known but little owing to her mode of life, once told me how the sudden contact with suffering humanity affected her. "I saw and heard so much that distressed me that all life seemed to be an open wound. . . . I used to lie awake all night, thinking about what I had seen or heard or suspected during the day, and I thought I should go mad because I could do nothing to stem that rising tide of misery and

corruption." Fortunately, she was made of excellent stuff and so profited by the chastening experience that, on recovery, she joined a group of enthusiastic social workers and now labors earnestly to improve human conditions in the city and State in which she lives.

Especial care should be exercised to prevent disagreeable feelings and emotions becoming transformed into the more persistent moods. It is often better for an emotion to discharge itself in the form of some definite act and thus bring it to an end rather than, through the partial suppression of it, have it last in the form of a disagreeable mood, for a considerable length of time. Pouting, sulkiness, harboring a grudge, or bearing malice, should be regarded as symptoms seriously to be considered and corrected, for if they be tolerated in the child, habits may be begun which will prepare the soil for the development, later in life, of the seeds of enmity and suspicion.

How Fits of Temper May Frequently Be Subdued

How to manage a fit of temper in a child has been much discussed. When possible it is desirable to cut it short at the beginning. Some parents rejoice to see their children reveal a violent temper, and are glad that they can fly into a passion, turn red as a beet, clench the fists, and attack the individual with whom they are angry. Such attacks, if frequently repeated, are very deleterious to the nervous system. Some parents try to stop them by petting or indulging the child, a kind of licensing of irritability which rarely, if ever, pays; others threaten the child or corporally punish him; a mistake, usually, in the other direction. As a rule, most may be accomplished by purposefully ignoring the attack, perhaps isolating the child for a short period; in some cases a warm bath and the bed may be the best remedies! In older children the habit of giving way to temper may sometimes be broken by inculcating the conviction that one who loses his temper makes a fool of himself, loses his dignity, and excites the disdain and contempt of his fellows: the horror of looking ridiculous, of making a donkey of one's self, may be a most powerful lever in conquering a tendency to attacks of fury.

Fear and Nervous Control

All children are easily frightened, but the child predisposed to nervousness, more easily than the healthy child, becomes the victim of abnormal fears or timidity. The Italian physiologist, Angelo Mosso, writing on "fear," once said: "Every ugly thing told to the child, every shock, every fright given him, will remain like a minute splinter in the flesh, to torture him all his life long." In Greece and Rome the children were frightened with the lamiæ or female demons (vampires), who would charm them and suck their blood, or with the one-eyed Cyclops. And this very pernicious error in education still prevails. The mother, the nurse, and the servants still frighten the child with tales of the bogy-man, of goblins, of ogres, of wizards, and of witches. How often is a child frightened to tears, its disposition spoiled and its life made a burden by tales, threats, or tortures which make it timid and shrinking; sometimes fears are thus started which last through life. One must learn how to deal with the fear of being alone, the fear of the dark and the fear of thunder and lightning. Certain fears, common to childhood, are easily overcome, especially through the example of courage set by parent, nurse or teacher.

In some instances, however, the fears are a symptom of disease and when there is doubt a physician should always be consulted. A young girl, recently brought to me, because of an unaccountable, persistent, and distressing fear of "burglars in the house," was found to be suffering from exophthalmic goiter; on removal of a portion of the thyroid gland the child rapidly improved and on last report was only occasionally troubled by the fear; it seems probable that she will soon be entirely free from it. Children who suffer from "night terrors" often have adenoid growths in the nasopharynx; on removal of the growth by a slight operation the "night terrors" disappear.

The Indirect Education of the Feelings—"A Child's Childishness Is Its Greatest Asset"

In his book entitled "The Natural Way in Moral Training," Patterson Du Bois emphasizes the importance of what he calls "nurture by atmosphere," by which he means the indirect education of the feelings, and John Dewey asserts that "The feelings and sentiments are the most sacred and mysterious part of the individual, and should always be approached and 'influenced indirectly.'" More can be accomplished by the setting of a good example in enthusiasms, depreciations, reverence, and admirations than by direct preaching.

Let no one think, however, that lack of feeling, or a nature impoverished on the emotional side, is desirable or that it protects against nervous disease. The elevating emotions—hope, joy, expectation, love—are constructive and are

judiciously to be cultivated; the depressing emotions—despair, sorrow, regret, and fear—are damaging to the nervous system if long maintained. The highest feelings of all, including the religious, the ethical, and the esthetic, inspire noble and useful conduct, and in the education of nervous children these sentiments are to be favored in their development, in due degree, at a suitable age.

It is a serious mistake to lead the young child into experiences that belong properly to a later age. When children under ten years of age are made to travel extensively, to visit museums and picture galleries, to attend the theater and the opera, they are introduced to entertainment wholly unsuited to their time of life and which they, in their immaturity, are entirely unfitted to enjoy. Later on at an age when they should learn to know such things for the first time the attractiveness of novelty is wanting; they are cheated of the pleasures which normally should be theirs. As Oppenheim well puts it, "A child's childishness is its greatest asset."

On the training of the religious, ethical, and esthetic feelings space will not permit me to speak, though I consider this of the greatest importance for the health of the nervous system. Certainly the cultivation of the love of nature, of truth, of goodness, of beauty, and of humanity cannot help but strengthen the character and the will. The altruistic feelings, when they begin to appear, should be given opportunity for expression.

Joy of Work—Advantages of Country Life

Above all as a factor making for the health of the nervous system the joy of work must be referred to. It is one of the greatest pleasures life offers; moreover it compels concentration of attention, and protects from all the dangers which attend upon idleness. "Education to idleness is education to nervousness." Overwork must be avoided; neither bodily nor mental fatigue should be permitted in excess. Regular, systematic, enjoyable work, suited to the interests and powers of the worker, is the best tonic I know of. If the work can be in the country, rather than in the city, all the better, especially for those with nervous predisposition. The enjoyment of nature possible in the country, the opportunities for work in wood, field or garden and upon the river, keeping the worker much in the open air, exercising his muscles, drawing his attention away from himself and fixing it upon things outside—what conditions could be more favorable to the health and happiness of the nervous child? If the nervous children that we see in towns could be transplanted to villages and the country—away from the din and bustle of the city, its restlessness, its haste, and its feverish excitements, what a host of advantages would accrue! The schools are growing ever better in the country; in many country districts they are now excellent. The movement which began with the school of Dr. Cecil Reddie in Abbotsholme, England, and which has led to the Landerziehungsheime of H. Lietz in the Harz and in Thüringen, and of J. Trüper, near Jena, should be followed and imitated in this country.

In any case nervous children should not be sent to school too early; preferably they should start a year or even several years later than the normal child. And in the schools they should never be pushed ahead too fast; competition is dangerous for the nervous child. The mistaken ambition of parents who desire their children to head the class is often responsible for serious injury to health. Sleeplessness is always a danger signal. In children it is most often due to indigestion or to mental overstrain; occasionally to premature sexual excitations. If insomnia appear and especially if it persist, the parents should consult a physician.

Medicine, psychology and pedagogy are all concerned in solving the problem presented by the nervous child. These sciences have already made great conquests; what the future may hold for them, who will attempt to foretell? Let us avail ourselves of the knowledge we have, doing what we can to dispel the scepticism of the ignorant and at the same time avoiding the futile enthusiasm of those who believe they know all.

THE EXCEPTIONAL CHILD

BY

LIGHTNER WITMER

AN idea is a tool of progress. And to become a tool of progress an idea must "bite." It must grip as a bulldog grips his prey. It is not always easy for an idea, no matter how beautiful it may be, or how valuable it may be, to gain effective force. Only slowly, like a search-light, does an idea first cast its rays here, and then there, and then yonder, and thus illumine the dark places.

For nearly two thousand years there has been before us an idea given by the founder of a great religion, "Do unto others as you would that they should do unto you." Does that idea "bite" today, everywhere? I trow not. Has that idea illumined all of the dark places of our civilization, our Christian civilization, even in this country? I believe not.

Sometimes an idea is like an avalanche and gains almost destructive force, and wipes away things that are good with things that are bad. The ideas which were developed during that wonderful eighteenth century flowered in the French Revolution, and in our American Declaration of Independence.

I want to submit an idea that I believe is a tool of educational progress, the idea of retardation.

The Boy Whose Misfortune Helped Others

In 1896—and I tell you this because I wish you to see that this work grew directly out of school practice; it was work that was brought to me, but it is work that lies at the hand possibly of every teacher, and certainly of every school system—in 1896 there was brought to me a boy, fourteen years old, a chronic bad speller. He was in the fifth grade, and therefore two years at least behind the grade in which he should have been. We now call those cases "retarded" in school progress. This lad was unable to read any better than a boy in the second grade. As professor of psychology in the University of Pennsylvania and as a student of the human mind, I was asked to tell this boy's teacher what was wrong with the boy, and why she could not teach him.

I did not know any more about the subject than the teacher did, except the general principles; and this very important thing, also, that if you want to know something about a situation like this, the way to do it is to study it directly, and work out your own salvation as you go along. And so I undertook to teach this boy spelling, just as any teacher might. And I made a discovery that any teacher might have made, if she just had a little knowledge and used that knowledge. I discovered that the boy had defective vision. He saw double. And as soon as I made this discovery, the boy said, "Why, I have often noticed that as soon as I put a word down and start in writing, the first letter of the word gets double on me as soon as I put it down." He had never told his parents that, and he had been seven years in the school system and no teacher had ever discovered it. He had lost at least two years, and possibly three, out of the seven; and he was permanently damaged mentally, because although glasses were put on him and the defect corrected, his brain had lost the training of those seven years, which could never be entirely made up. Up to that time he had never read a book or newspaper. His sister had read to him and had helped him in preparing his lessons. He was gotten to a point where he could read, but he never became an efficient reader, nor did he ever become a satisfactory speller. His retardation was so extensive that it amounted to a partial arrest of mental development that could not be entirely overcome, although it was ameliorated. If he had been taken in hand early, that boy, who was normally bright, would have had a normal career in the school.

Systematic Investigation in Retardation

After that first case we saw at the psychological laboratory many cases, and it led to our establishing what we call a psychological clinic, for the examination of children who stand out conspicuously as being unable to progress in their school work, or who present difficulties in the home-life. We have seen many thousands of cases and I have at various times had under my care several schools in which was carried on the observation of special cases, moral cases, cases of defective hearing, and those cases which present what I call the "typical backward child."

About 1904, we decided to find out the number of such children in the public schools. I thought the task too difficult to undertake for as large a

school system as we had in Philadelphia. So the superintendent of schools in Camden (where there were then only twelve thousand children) and I undertook to determine how many children were behind in their grades. We planned to take all of the children that were behind one year or more, and subject them to a special examination. We found that of those twelve thousand children, fifty per cent. were one year or more behind the grade in which they should be. Six thousand children had lost one year of the eight years of school training. Twenty per cent., one-fourth of them, were two years or more behind grade; and twelve per cent. were three years and more behind grade, a tremendous exhibition of retardation. After that initial study, others took up the work, notably the Russell Sage Foundation; and to-day there is scarcely a superintendent of an extensive school-system who does not include retardation statistics in his annual report.

It has been found that the statistics of retardation constitute a kind of standard of measurement by which we may judge of the efficiency of the school-system, because the efficiency of the school-system is to be judged by the number of children who are trained and developed for an efficient adult life. And if these children are losing two, three, or four years out of eight, they cannot possibly be trained efficiently for adult life. And this retardation we call "pedagogical retardation." We say nothing primarily about the causes. A child may be pedagogically retarded simply because he is late in entering school; because he does not attend school regularly; because he is of foreign parentage, has no facility in the English language. He may be pedagogically retarded because he has defective eyesight, or defective hearing, or because he has tuberculosis, or other diseases. He may have unfortunate and unhappy home surroundings—a thousand and one things are responsible for this pedagogical retardation. And so my contention is that we should take these children that are distinguishing themselves by being behindhand, discover the causes, and apply proper treatment.

Eighteenth-Century Ideas and Studies

This idea of retardation is not a new idea. It dates back to the eighteenth century, to that time when men first became interested in the natural "rights of man." It is based upon a psychology which had begun to analyze what a human being is actually like. And it told us that this supposed faculty of reason upon which man prides himself as distinguishing himself from the lower animals, is not a distinct and unique faculty. Many of the lower animals are able to reason—not as well as man—but they are able to reason. Man reasons better, but the processes are essentially the same. They are more highly developed in man than in the animals that stand next to him.

The insane and the feeble-minded had been considered up to that time deprived by nature, and some people even said deprived by God, of this essential human faculty of reason. And so people had been putting the insane in institutions where they had been chained to walls and otherwise held in restraint, and the idiots had been put with them, no effort being made to train them.

Three years after the French Revolution, a boy was found wandering wild in the forests of southern France. He was apparently twelve years of age. No one ever knew where he came from or where he had spent the time between his birth and his discovery. He sometimes walked upon all fours. He had no intelligible language, but made his wants known by signs and inarticulate cries. He drank by immersing his lips beneath the surface of the water. He resisted the placing of clothing upon him, but was amenable to kind treatment. He was brought to Paris and exhibited before the Academy of Sciences. And this question was put before them, "Is this boy the natural man uncontaminated by a false civilization, and unspoiled therefore? If he is, then the study of his development will be extremely interesting for society, as it will reveal to us the natural unfolding of the human organism." It is exactly the same proposition which Montessori puts before the teacher in her school, not to consider that she knows it all, but to consider that she is an observer rather than a teacher of the child, in order to find out the way the child is going, and then to lead and direct.

The Work of Sicord and Seguin

And this was the alternative—was this child feeble-minded, and therefore, according to the theory of that day, insusceptible of improvement? There was a physician in Paris named Sicord, who was connected with a newly-established school for the deaf, and I have no doubt that he had seen in that institution for deaf children, those apparently as feeble-minded as this boy, children who, after training, had begun to show fairly normal human faculties. So he undertook the training of the boy, and one result of his experiment was the demonstration that the boy was feeble-minded. But he also showed that a feeble-minded boy could be trained, and that is believed to be the first time

in the history of the world that a feeble-minded person was subjected to intelligent training.

Sicord, however, did not appreciate the importance of his experiment. That remained for Edward Seguin, who in 1839 first undertook the instruction of a small group of feeble-minded children, and from that he wrote a book on idiocy, which may well be studied by every teacher of normal children, for the ideas which lie at the foundation of Seguin's work are the constructive educational ideas of to-day. It is from Seguin that Montessori got not only her inspiration, but also the direct elements of her practice. Seguin came to this country and as a result of the interest of Charles Sumner, and others in Massachusetts, the first training school for feeble-minded children was established. Those schools originally were all of them established with exactly the same principle in view which results to-day in the establishment of classes for backward children, namely, that these feeble-minded children could be educated and trained and returned to society. That is a mistake. The feeble-minded child can be trained and educated, but he *ought not to be* returned to society.

Distinction between the Backward and the Feeble-Minded Not to Be Forgotten

There is a distinction between the backward child and the feeble-minded child. Many of our institutions for the training of the feeble-minded are to some extent a social menace, because they are taking children and educating them up to a point where they are enabled to maintain themselves rather miserably in society and reproduce their kind. The training-school for feeble-minded children in Pennsylvania, with which I am connected, has to-day three or four children of one of its older inmates.

In the development of our work for the training of backward children we must undertake it with an intelligent idea at the basis, and not with a mere humanitarian impulse. Humanitarianism is the steam, but there must be a guiding hand and brain at the throttle. And it is foolish for us to establish classes for backward children, children who need an extra teacher, an extra training, and then permit those classes to be filled up with feeble-minded children. Fifty per cent. of the children in our Philadelphia classes belong in institutions for feeble-minded children. And we have there able teachers, with classes of from twenty to twenty-five, endeavoring to teach feeble-minded children by day-school methods—an impossibility. They are endeavoring to teach children who are of such a low grade of intelligence that the Pennsylvania training-school for feeble-minded children will not accept them, because it considers them non-trainable, merely custodial cases.

I am trying to put before you the driving force of the idea. You can see to-day how forceful this idea of retardation has been. It has led to the establishment of classes for backward children and disciplinary classes for truants, for these children are simply children who are retarded in moral development; classes for the deaf or the semi-deaf; classes for the blind or the semi-blind; and open-air classes for the tubercular cases. And recently the question has been put to us, if these are exceptional children and worthy of being separated from the other children of the grade and given a more expert treatment, a more expensive treatment, why should we not separate another type of exceptional child and give him the same advantages of open-air school and better gymnasium training and manual work, and a broader intellectual horizon—why should we not expand this grand educational opportunity to the exceptionally bright child?

Is Not Consideration Due the Exceptionally Bright Child?

That suggestion was first made in an official form at a meeting of superintendents in Indianapolis, and it is embodied in the report, I think the first report, which the Commissioner of Education called for, "On the training of exceptional children in this country." Under the head of exceptional children, we include the exceptionally bright child. I contend that after all, the child that we are really after, off there in the distance, is this exceptionally gifted child. And I believe that the methods of investigation and the methods of treatment which we are working out with these more difficult cases, are the methods which ultimately will be found satisfactorily employed in the treatment of the exceptionally bright child. Let us take that idea of retardation and use it like a search-light, for such I said an idea may be, and let us turn it not upon the dullard at the lower end of the class, but upon the bright child at the other end of the class. What we find with many of these dullards is that if a different course of procedure had been followed with respect to the child, if he had a different home perhaps, if he had been rightly fed instead of half starved throughout life, if he had had his eyesight and his hearing corrected, and if he had received in school the proper sort of educational treatment, he would have been further along than he is now. In

other words his retardation is due to the kind of treatment to which he has been subjected.

We take that thought and ask ourselves whether this extra bright child may not also be retarded one or two or three or four years, and may not be immensely circumscribed in intellectual horizon because of the kind of treatment to which he is subjected in the public schools to-day. I believe that when we ask ourselves, What does the boy get out of the public-school system? we mean, What is due to the actual efforts of the teacher with a particular case? We must concede that the bright child gets by far less than the dullard, because the teacher has to work hard with the dullards to bring them up in order to preserve her class average. But the bright child sits there and knocks his heels together and dulls his brain by hearing the dullard recite. The only reason, to my mind, why we do not proceed immediately to the treatment of the extra bright child as we are treating the backward child, is because we don't know how. It is extremely important for us to be aware of our limitations. I am sometimes afraid that this movement, this idea of retardation, may get away from us. The effort may be made to develop the idea before we are ready with the proper agencies. We know really only a little about the exceptionally retarded child, the dullard, and the morally retarded, and the criminal, but we know far less about the exceptionally bright child. There is a problem for us that is calling for solution.

Class and Individual Teaching

Now this idea of retardation brings us back to the old and more general idea, to the idea of education itself. Education always divides itself into two aspects, one which I consider education proper—pedagogy, which is training—or education of the group, called a class. We never can get away from that. I never believed in urging the teacher of a grade to become a specialist in psychology and to study and work with the individual child. That means chaos. Our educational procedure has already beaten out through a hundred years of experience, methods which are fairly satisfactorily employed in the handling of groups or classes. And I am enough of a psychologist to believe that it is a mistake to ask the teacher to turn her attention away from what is her real problem (putting into those children the subjects of the curriculum) and placing it on another problem (the individual child). But there must be in connection with every school-system some one or more classes in which individual work is done. After all, that is the other aspect of education, the problem of mental development, passing of a child along from year to year until he reaches adult age.

And this idea of retardation is simply a tool of educational progress. It is measuring education to-day by a somewhat different standard—not by a class average, but by individual progress in terms of what we find a given individual's natural endowment to have been. And we are asking with respect to individual endowment, Have our schools to-day developed those endowments up to their full limit of possibility? In other words, we ask that every child that is sent into the public schools shall have an opportunity of having his natural endowments developed to the full extent of his possibilities.

This brings us to another idea which has been a driving force. Our Declaration of Independence speaks of all men being free and equal. We have worked out the idea of freedom in this country, but we have not yet worked out satisfactorily the idea of equality. We do not quite know what it means. There are some persons who think that it has no meaning for us. I am one of those who believe we mean that every child shall have an equal opportunity for the development of his natural endowments. We believe that it is not only the child's right, but it is also the duty of the State to see to it that an equal opportunity is afforded the children. The State is interested in these children as future citizens.

STAMMERING

BY

DR. HARRY ROBERTS

STAMMERING and stuttering, though commonly confused, are not identical. Stammering is due to one or both of two causes: spasm of the muscles of the lips and tongue, or imperfect co-operation of the muscles used in speech, or of those governing the supply of air needed for the emission of sound. Stammering is a spasmodic arrest of speech due to one of these causes, while stuttering is the spasmodic repetition of words or the first syllables of words. The latter

is the less common impediment to speech, and is also the more difficult to cure. The first step in the treatment of stammering is to discover which part of the mechanism is at fault, and to endeavor by means of suitable exercises, respiratory and other, to restore the muscles to their normal state. The symptoms of the ailment are very helpful in determining the proper treatment; as, for example, in the case of stammering due to spasm of the cords which control the exit of the breath.

In this case the patient may stand speechless for several seconds, and when the spasm relaxes, he will pour out his words in a rapid stream, so as to pronounce as many as possible before the next intake of breath. With these cases respiratory exercises are obviously needed, and the patient should be made to draw deep and even breaths for a specified time daily. In the case of imperfect coöperation between the respiratory and articulating muscles, the patient will place his mouth and throat muscles in position for pronouncing the desired word, but at the proper moment the respiratory muscles do not permit the escape of the necessary amount of air for the production of sound. The word is perfectly shaped, but the sound is wanting.

Search for the Cause

It is a curious fact that stammering is five times more frequent in boys than in girls. Stammering children should always be examined, to make sure that there is no mechanical impediment, such as adenoid growths, to be found. Such should, of course, be removed if present. These are, however, very rarely the sole cause, though they may be contributory. Dr. Guthrie points out that in the great majority of cases the fault is respiratory. The patient must therefore be instructed in the first place how to increase the vital capacity of the lungs by means such as those suggested above. He must also be taught to control the exit of his breath, first without, and secondly together with, vocalization. He must learn to vocalize his vowels with steady, prolonged resonance, and to direct his attention to this, rather than to articulation. He must intone the vowels, and be shown how to introduce the consonants meanwhile, as for instance in uttering the sound O-mo, O-do, O-to, etc. He will thus learn that vocalization of vowel sounds aids in giving utterance to the consonants over which he stumbles.

The habit of stammering or stuttering has no connection with any defect of the organs of speech, but arises rather from nervousness, lack of self-control, and, in some cases, imitation. The latter often accounts for the fact that stammering so frequently runs in families. The habit can usually be easily cured if it is attacked soon enough. The child must be made to talk very slowly and evenly, and as soon as he begins to show signs of stammering he must be made to stop, allowed to grow quiet, and made to begin the sentence again. He should be practised in repeating phrases containing the usual stumbling-blocks until he says them easily and fluently, and in a surprisingly short time the habit will be found to be conquered. Perfect self-control and patience are, however, absolutely necessary in the teacher, as one outbreak of temper, which again disturbs the child's nerves, will often undo all the good that has been done by weeks of patient labor.

MENTALLY DEFECTIVE CHILDREN

BY

DR. C. P. LAPAGE

Definitions of Grades of Mental Defect

A FEEBLE-MINDED person is one who is capable of earning a living under favorable circumstances, but is incapable from mental defect, existing from birth or from an early age, (1) of competing on equal terms with his normal fellows, or (2) of managing himself or his affairs with ordinary prudence.

The imbecile is a degree worse than the feeble-minded, and is incapable of earning his living under any circumstances, but is able to guard himself against common physical dangers.

The idiot is the lowest degree, and cannot even guard himself against common physical dangers.

Factors in Causation

A taint of insanity, epilepsy, or mental deficiency is found in about 40 per cent. of the families of the feeble-minded. There is little doubt that this taint, handed down from generation to generation, is the most potent cause of feeble-

mindedness, especially if it be reinforced by an additional taint from the other parent.

In considering tuberculosis or alcoholism, it is not possible to give such a definite opinion. Tuberculosis is so wide-spread that family histories are of little value. Again, it is very common among the insane, because they seem to have inherited a weak resisting power. In this way a tuberculous family history may show that the child comes from a stock tainted with mental disease and tuberculosis. It is also difficult to estimate the effect of alcoholism, either affecting the ancestors and producing an inherited taint, or as a poison to the parental reproductive elements before or after conception. Statistics are misleading, and the fact that a person is convicted of drunkenness often only means that he is of weak mental caliber. All that is certain is that the tissues of persons suffering from alcoholism or tuberculosis to any great extent are much weakened and poisoned.

Though injury at birth and disease after birth may be the cause of feeble-mindedness, they are rare compared to the inherited causes. There is also nothing to show that syphilis or cancer causes feeble-mindedness. Let it be emphasized that in most cases feeble-mindedness is innate and inherited.

Types of Mental Defect

The following types can be picked out; but it must be understood that the majority of the feeble-minded cannot be classed under any special type, some of them being of a bright and even prepossessing appearance:

(1) *The Microcephalic,* with very small heads, which, instead of being from 20 to 21 inches in circumference, are often only from 17 to 18 inches.

(2) *The Mongolian,* whose features are very like those of a Chinaman, the eyes being obliquely set, and the bridge of the nose depressed; the ears are small and shell-like, the tongue protrudes, the head is small and round, and the hands trident shaped. These children are usually very happy, and frequently show a marked liking for music.

(3) *The Cretin,* whose condition is due to the absence of one of the glands of the body, the thyroid, and not due to an original brain defect. These cases can be vastly improved by the administration of extract of sheep's thyroid. Cretins are very stunted in growth, have coarse features and skin, a harsh voice, a large, clumsy tongue, and are extremely dull and heavy in action and thought; if untreated, they are hopeless imbeciles.

(4) *The Hydrocephalic,* whose head is enlarged and brain compressed by an effusion of fluid in the brain. The much commoner enlargement of the head due to rickets must not be confused with this condition.

(5) Those due to a hemorrhage of the brain at birth. Such children are often stiff and awkward, and are very given to slavering.

(6) Epilepsy and feeble-mindedness are closely connected with one another. As many epileptic children are also feeble-minded, no treatment of the epilepsy can alter the mental condition in such cases; but, on the other hand, most epileptic children are not feeble-minded, and mental dulness, if present, is due to the fits, which may have a marked effect in this way.

Physical Characteristics of the Mentally Defective

Among the commonest of these are: (1) Smallness and unevenness of the head, the circumference being less than the normal, which can be taken as 21 inches at 4 years and 21½ at 10 years —a head under 19 inches in a well-grown child is very suspicious; (2) abnormally shaped ears; (3) extra skin folds at the inner angle of the eye; (4) a highly arched palate. This condition has been said to cause defective speech, but has little effect in this way. These stigmata, though they may be and often are present in normal children, are much more common in the feeble-minded. The heights and weights of mentally defective cases are generally lower than those of ordinary children. The general balance and carriage are often very defective, because, as in the case of defective speech, there is poor muscular control and clumsy coördination of groups of muscles. It is often possible to tell at a glance from the expression and general appearance that the child is feeble-minded.

Disorders of Speech Are Not Always Permanent—Importance of Attention to Hearing, Eyesight, and Muscle-Training

Defective speech is very common, and may be due to underdevelopment of the ways into the brain or of the centers in the brain. The speech apparatus is seldom really deformed, so training, education, and stimulation of the ways in, *i.e.* sight, hearing, and sense of lip movement, of the brain itself, and of the ways out to the muscles of the speech apparatus, can do much towards improvement.

A slovenly jumbling together of words leading to general indistinctness is often found combined with lalling, which is substitution of one of the more easily pronounced consonants, such as P,

B, or T, D, for the less easily pronounced, as K, G, or else Y for R. Coat thus becomes "toat"; girl, "dirl"; rabbit, "yabbit," and so on. The combined consonants present especial difficulties in words like scissors and kettle. In the same way the child may write "god" for dog, or go off into a meaningless jumble when attempting to write down a word.

It is always necessary to pay careful attention to the hearing and eyesight in order to make sure that the mental dulness is not due to such troubles. In testing the hearing, the observer must be careful not to confuse want of attention with true deafness, as it is by no means always easy to distinguish between the two.

Though the feeble-minded are late in learning to walk and talk, most of them have learned before they attain school age; but delayed development of control over the muscles governing the bladder and bowels may persist to school age, and give considerable trouble. Careful training is usually successful in such cases.

Mental Characteristics—Lack of Memory and Concentration

Memory is often deficient, the mother complaining that the child cannot go simple errands. Concentration and attention, so necessary for learning, are often conspicuous by their absence. Many feeble-minded children appear deceptively bright, but their attention is so little fixed, and flits so lightly from one subject to another, that the ways into the brain are poorly developed and tuition is difficult.

The feeble-minded find great difficulty in appreciating an abstract idea. They cannot do sums or name colors at all well, but may succeed if they have beads to count or colors to match. They are much better at manual tasks, for they commonly have good powers of imitation, and can do useful work under supervision. At first they may need infinite pains and care, the worst cases beginning with the very simplest tasks and gradually learning to perform harder ones. Moral failings, such as incorrigible thieving and lying, are very difficult to deal with in some cases, but fortunately intractable cases are not very common if discipline begins at an early age.

It must be remembered that on the one hand some children are backward because their health has been bad and their education neglected, and on the other hand that some feeble-minded children can attain a fair amount of knowledge and manual skill; in consequence it is not always easy to be sure that a child is feeble-minded, but if attention be paid to the above points, a definite opinion can be given in most cases.

Treatment and Care of the Mentally Defective

These children need permanent care. Unless all workers and all societies taking up this subject recognize that permanent care is the one and only remedy by which a community may hope to deal effectively with the feeble-minded, their work may do more harm than good. If these children are to be trained and educated at special schools, arrangements must be made for supervision and care after school age, or the ranks of the unemployable, the prostitutes, the drunkards, and the habitual criminals are recruited. Further, it is far better for the feeble-minded to have their minds and bodies developed and exercised than for them to lie fallow.

There are several methods of dealing with feeble-minded children of school age.

The Advantages of a Special School Are Many

In an ordinary school feeble-minded children, though not always conscious of their inferiority, are often bullied and teased, and cannot get that special attention so necessary if they are to obtain any benefit from teaching. More important is the fact that they waste the time of the teacher and the ordinary children. At a special school, instead of suffering from contact with other feeble-minded, those of the higher grades are often benefited. The imitative and musical faculties should be fully used, and manual training and drill adapted to giving the children control over their fingers, muscles, and powers of judgment. Improvement in cleanliness and obedience should be first aimed at, and little can be done until some power of attention can be attracted. It is only infinite patience, combined with skilled and practised tuition, that will render good results possible. After leaving school the children must be under supervision and guidance of some organization for finding them occupation and for permanent care.

Institutions for Permanent Care

There is little doubt that the formation of colonies or institutions for the permanent care of the feeble-minded goes a long way towards the solution of the problem, and, if it were more generally adopted, would in time greatly diminish the number of the unemployed. America is far in advance of England, where there are no legal powers of control over education cases after the school age of 16, so that any attempt at permanent care in an institution is badly handicapped from the beginning by the fact that any of the inmates

over 16 can walk out if they wish to do so. Prevention is better than cure, and the sooner a community realizes that permanent care and segregation of the feeble-minded is the chief way of lessening the number of these undesirables the better.

Finally it should be pointed out that the general population must be brought to realize clearly that feeble-mindedness is inherited and likely to recur in the next generation. Then many entirely unsuitable marriages will be prevented, and the greater will be the success attending the efforts of those who wish to stamp out a scourge that has brought untold distress to many homes, and has imposed an enormous burden on the community.

SAFEGUARDING THE JUVENILE DELINQUENT

BY

ROBERT J. WILKIN

WHILE it is true that the principles of law are fixed, "that we shall live honestly," "shall hurt no one," and "shall render to every one his due" (Blackstone, 40), the change of circumstances upon which these principles apply make the varying views and the many decisions of the courts necessary. It is important to recognize, however, that the attitude of the public is a most influential and powerful agent in determining how these principles shall be applied. For instance, in the concluding paragraph of a recent decision by the New York Court of Appeals, this influence of the public attitude is markedly shown in the difference of the weight which is given to mere technicalities. (People *vs.* Gilmore, 199 N. Y., 28.)

Giving the Child a Legal Status

This is the case to-day, also, in the attitude assumed by the public in the treatment of children against whom some offense is charged. Not long ago, there were few distinguishing differences in the manner of the treatment of the child and of the adult. It is true, following the common law, the statutes provided that a child under seven was presumed to be incapable of committing a crime, and between seven and twelve that evidence was necessary to remove this presumption; but until quite recently the only importance given a child in the contemplation of the law was when property rights were to be recognized or protected, and then the equity or chancery rules were applied. When there were no property rights there was no guardian. How interesting it is to know that the necessity for a guardian was to secure the "responsibility for costs," and the older decisions show that the property rights of the child were the rights most considered. (People *vs.* N. Y. Com. Pleas. 11 Wend., 164.)

To be sure, the question of the custody of the child as between parents, as well as others, was not unknown, but the child as an entity apart from the parent was given slight attention.

Of late this attitude has changed and not only is the material welfare of the child recognized, but now he is considered as an individual deserving the careful protection of the State. It would be interesting to study each step taken along this road of advance from the remote past to the present time. The writer's idea is to emphasize this change and call attention to its application to children's cases before the courts to-day.

Children charged with offenses until recently were tried in the same tribunal with adults. In many jurisdictions this is continued even to-day. In others we have established children's or juvenile courts, where only cases in which juveniles are charged with derelictions are tried.

The Civil and the Criminal Courts

The well-established custom of the law was to separate matters in which private claims were adjudged into one class of courts, and such other matters where the State appeared to regulate public conduct in another. The one we speak of as civil courts, and the others as criminal courts. It is true the mark between the two is not as clear as it might be, but the general distinction is as stated. The rules governing the conduct of cases in the two classes of courts varied somewhat, much more strictness of construction being applied in the criminal branch than in the civil. This was desirable justice, for the differences between two citizens could be determined by allowing some play to discussion and an attempt at compromise, whereas, when the sovereign State was to visit its vengeance upon the subject for some violation of the law of the land, it was eminently proper that a strict rule should be applied, to enable the subject to be protected in

his weakness as against the power and authority of the commonwealth.

When personal differences arose between citizens it was wisdom to bring them together to adjust their differences and endeavor to balance their claims. This could be done in a civil court. Where, however, the liberty of the person of the citizen or his right to life was to be tried, it was equally essential that more careful safeguards should be put around him to secure equally the protection of the State on the one hand and the sanctity of the person of the citizen on the other, and this was done in the criminal court.

The general rules of practice apply equally in all classes of legal practice, but the constitutions of the Federal Government and the various States enunciated certain principles which are practically looked upon as the rights of the people. These principles have been handed down from the great Magna Charta, and while few in number, still now are recognized as the foundation of our rights under a free government.

Protecting the Child from the Stain of Criminality

These principles, among which are that the accused shall enjoy the right of a speedy and public trial; be confronted by the witnesses against him; the right to have compulsory process for witnesses in his behalf, and to have the assistance of counsel for his defense, as well as that the rights of liberty of person and property cannot be invaded except by due process of law, are but instances of the safeguards referred to. The establishment of children's or juvenile courts in this country has brought prominently to the attention of the bench and bar the peculiarities of the civil and criminal practice. In most of the States the usual practice and procedure under the criminal law has been followed, but in some others, in the hope of relieving the child of any criminal stain upon its name, which in after years might tend to interfere with its best development, the equity or chancery practice of the civil law has been invoked. This is particularly the case in the juvenile court in Cook County, Ill., and an attempt to follow this plan is also shown in the recent statute providing for the extension of the powers of the County Court of Monroe County, in New York State. (Chap. 611, Laws of 1910.)

The writer is wholly in sympathy with the idea of those who would relieve the child of any stigma except that which directly follows the commission of some prohibited act, and it is hoped that this much-desired result may be accomplished, although it is difficult for the mind to grasp the idea of treating a childish dereliction before the law in any other way than the ordinary one followed by human nature.

The Procedure in the Home

In the ordinary household some damage is done and inquiry is made as to how it was accomplished. The inquiry develops what appears to be evidence showing that a child of the family in its effort to play, or to obtain possession of some prohibited morsel, has committed a breach of discipline with the resulting damage. The first question to be determined is as to the one who committed the act; that determined, the next is how it was done, whether with or without authority, whether with or without an intent, and after all the investigation the conclusion is reached whether the suspected child is the one responsible for the act, and then, if so, how a repetition of the act may be prevented. Does this homely simile represent the procedure of a civil or a criminal case? Does the preponderance of proof determine, or should the evidence be beyond a reasonable doubt, especially when it is a question of the application of physical suffering?

The Child's and the Parents' Rights

Let us take another view of the same subject. A child commits some act upon the streets of the city. It may be the taking of property that does not belong to him; it may be the destruction of property wantonly or carelessly; it may be any of the other many acts which are prohibited by the law. The child may or may not live in the immediate vicinity of where the act was committed and may or may not be known. If not known, how is the civil law to deal with the case? Under what particular provision of the civil law is contained the right to summary arrest and detention prior to filing the petition before the court? If the identity is known, then what right has the officer to apprehend this misguided child? If the child is apprehended, has he not a ground of action against the officer for unlawful arrest or interference, and what are the parents' rights in being deprived of the benefits of the custody of their child?

If the child is arrested and the provisions of the criminal code do not apply, then it is necessary to go to a civil court to sue out a writ of habeas corpus to obtain its freedom. Is it not better to have the provision of bail under the criminal code apply? This difficulty has been recognized in the organization of the Juvenile Court in Cook County, Ill., because no proceeding begins there except on petition. The same diffi-

culty apparently presents itself in the beneficent statute applying to the Monroe County Court in New York State, which provides in part as follows: "Nothing in this act contained shall be construed as forbidding the arrest, with or without warrant, of any child as now or hereafter may be provided by law, or as forbidding the issuing of warrants by magistrates, as provided by law. . . ." Farther on in the section provision is made that where a child is brought before such court or magistrate the case shall be immediately transferred to the county court, but already the child has been contaminated by its public arrest by the police, by its arraignment before a general magistrate and by its association with the adult magistrate's court.

Special Pleadings and Procedure for Children

Is not the question, then, one whether or not nomenclature is of essential advantage? Is not the practice in the criminal procedures of our States a more simple running and more equitable, just and comprehensive proceeding than could be built up under any form of civil procedure? If it is, then is it not possible for the lawyers of the country to frame a practice which would contain pleadings and procedure affecting children, which in themselves would embody all of the protection given to him who is charged with an offense against the law, and at the same time eradicate entirely all of the peculiar criminal processes which would stamp the child as a convicted miscreant in after life?

With the exception of appointing a guardian *ad litem* or general, the criminal courts have to all practical purposes as wide a range of action as any other tribunal, and in addition thereto organization and powers which broadly extend under competent care that protection which is recognized by the State as due to every child citizen.

The children's or juvenile courts of the country are but a few years old. The idea of a separate tribunal to discover the facts and apply a remedy in the case of juveniles has in several jurisdictions been tried and the higher courts have determined the enactments unconstitutional. Is it wise, then, to attempt to engraft on to the law an entirely new procedure and extend a jurisdiction not contemplated by the framers of our great system of jurisprudence, and which will take many, many years to develop, even if such is possible? Or shall we apply the laws as we have to-day, authorized by the use of centuries, sustained by the wisdom of the greatest minds of all time, and by recasting the names of a few of our forms, can we not in the best way protect the child as well as safeguard the rights of the citizen?